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ABSTRACT

This report explains what will be necessary to achieve health for all people in the world by the year 2000 through primary health care. The booklet is organized in six chapters. The first chapter introduces the premise and describes current socioeconomic development and prospects for the future, along with current problems of health personnel development. The second chapter explains how health for all can be achieved by health personnel development. Chapter 3 puts health personnel in historical perspective and predicts world trends. Chapter 4, the longest part of the book, sets out a program for health personnel development and management. The role of the World Health Organization (WHO) in health personnel development is discussed in chapter 5, while the final chapter presents conclusions and recommendations derived from the study. The Committee felt that radical changes should be made in the health manpower development processes in countries. Thirteen recommendations covering the following topics were made: (1) Health manpower requirements; (2) Integrated health systems and manpower development; (3) Political commitment; (4) Community involvement in health manpower development; (5) Health manpower policies; (6) Health manpower planning; (7) Characteristics of the graduates of educational and training programs; (8) Continuing education and career development; (9) Health manpower management; (10) Health manpower information system; (11) Global data base for health manpower development; (12) Research in health manpower development; and (13) Gaining the support of professional groups. (KC)

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Health manpower requirements for the achievement of health for all by the year 2000 through primary health care

Report of a WHO Expert Committee

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The World Health Organization is a specialized agency of the United Nations with primary responsibility for international health matters and public health. Through this organization, which was created in 1948, the health professions of some 165 countries exchange their knowledge and experience with the aim of making possible the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

By means of direct technical cooperation with its Member States, and by stimulating such cooperation among them, WHO promotes the development of comprehensive health services, the prevention and control of diseases, the improvement of environmental conditions, the development of health manpower, the coordination and development of biomedical and health services research, and the planning and implementation of health programmes.

These broad fields of endeavour encompass a wide variety of activities, such as developing systems of primary health care that reach the whole population of Member countries; promoting the health of mothers and children; combating malnutrition; controlling malaria and other communicable diseases including tuberculosis and leprosy; having achieved the eradication of smallpox, promoting mass immunization against a number of other preventable diseases; improving mental health; providing safe water supplies; and training health personnel of all categories.

Progress towards better health throughout the world also demands international cooperation in such matters as establishing international standards for biological substances, pesticides, and pharmaceuticals; formulating environmental health criteria; recommending international nonproprietary names for drugs; administering the International Health Regulations; revising the International Classification of Diseases, Injuries, and Causes of Death; and collecting and disseminating health statistical information.

Further information on many aspects of WHO's work is presented in the Organization's publications.

* * *

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Geneva, 12–16 December 1983

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HEALTH MANPOWER REQUIREMENTS FOR THE ACHIEVEMENT OF HEALTH FOR ALL BY THE YEAR 2000 THROUGH PRIMARY HEALTH CARE

Report of a WHO Expert Committee

The Expert Committee met in Geneva from 12 to 16 December 1983. Dr Halfdan Mahler, the Director-General of the World Health Organization, opened the meeting and emphasized that the primary health care approach was the key to achieving the goal of health for all by the year 2000, and that health manpower, in turn, was the key to effective primary health care.

Health manpower development must be broad in range, encompassing the political and social obligations as well as the technical aspects of primary health care. In addition, manpower development must include the various levels of health systems where manpower plays a key role: policy-makers and planners; educators and trainers; health system and manpower managers; and communities.

Dr Mahler also pointed out that all social progress in human history has been accomplished by people who have stubbornly refused to be deterred by how badly they might do. He emphasized that all must be willing to take the risk of doing badly, and he appreciated the willingness of this Expert Committee to join the Organization in taking that risk. He fully expected, however, that this committee would be successful in its endeavours.

1. INTRODUCTION

1.1 Socioeconomic development and prospects for the future

There have been important improvements in a number of parameters of development in virtually every country; per capita gross national product (GNP), life expectancy, infant mortality, and literacy can be cited as examples (see Table 1) (*1*). The fact that such extensive improvements have taken place indicates that a

Table 1. Basic indicators of development (*1*)

	GNP per capita	Average percentage annual growth in GNP	Life expectancy		Infant mortality		Adult literacy	
	1980	1960–81	1960–64	1980–84	1960–64	1980–84	1960	1981
Low-income countries	**270**	**2.9**					**34**	**52**
China	300	5.0	55	70	94	41	43	69
Ethiopia	140	1.4	37	41	170	143	..	15
India	260	1.4	44	52	157	118	28	36
Nepal	150	0.0	37	45	189	144	9	19
Pakistan	350	2.8	46	53	153	120	15	24
Zaire	210	−0.1	41	49	146	107	31	55
Lower-middle-income countries	**850**	**3.4**					**39**	**59**
Egypt	650	3.5	47	57	152	97	26	44
Guatemala	1 140	2.6	48	61	115	68	32	..
Indonesia	530	4.1	40	50	145	87	39	62
Ivory Coast	1 200	2.3	39	49	167	122	5	35
Nigeria	870	3.5	40	50	177	130	15	34

considerable potential for progress exists, at least in some sectors of development.

However, other indicators show less favourable trends. Birth rates, for example, have decreased unevenly across the developing world: dramatically in parts of Asia and Latin America, but hardly at all in Africa. Population growth rates, therefore, remain a major constraint on development and a serious threat to economic growth and social progress (Table 2). While per capita gross national product has shown favourable growth in most parts of the world, many countries of Africa have experienced no growth or even negative trends during the past decade.

The fact that some trends are in a favourable direction must not obscure the extreme differences between the more developed and less developed societies; for example, 10-fold differences in infant mortality, 20-fold differences in young child mortality, and 100-fold differences in maternal mortality still exist.

Looking to the future, the World Bank (*1*) has published projections from 1985 to 1995, using low-, medium-, and high-growth scenarios to illustrate the likely impact of different economic trends. The most favourable possibility appears to be an annual growth rate of 5% for the developed countries and about 6% for the

Table 2. Demographic indicators

	Crude birth rate per 1000 population		Average percentage annual growth of population		
	1960–64	1980–84	1960–64	1980–84	2000–04
China	34	19	2.0	1.3	0.9
Ethiopia	51	50	2.3	2.7	2.5
India	44	33	2.3	1.9	1.3
Nepal	46	42	1.9	2.3	2.0
Pakistan	47	42	2.8	2.8	1.9
Zaire	48	45	2.4	2.9	2.7
Egypt	43	35	2.5	2.4	1.9
Guatemala	48	38	3.0	2.9	2.4
Indonesia	47	31	2.3	1.6	1.1
Ivory Coast	50	46	2.6	3.0	2.8
Nigeria	52	50	2.8	3.4	3.1

developing countries, equivalent in both cases to the growth rates experienced in the 1960s and early 1970s.

If, however, the developed countries do not deal effectively with their economic problems and follow the low-growth scenario with an annual economic growth rate of only 2.5%, the consequences for the developing countries could be serious; the per capita incomes of the low-income African countries would continue to decline (as they have done over the past decade), as would those of some of the small Asian countries. Even if annual growth rates of 5–6% continue until the turn of the century, it is estimated that more than 600 million people will still be below the poverty line in the year 2000.

Much less information is available on the gross inequalities in health status of people within a given country. For example, a recent comprehensive report (*2*) on the inequalities as regards health in the United Kingdom emphasizes the persistence, from infancy through to maturity, and over a span of about three decades, of significant differences in a number of health indicators among the five occupational classes in the population. There is every reason to believe that analogous disparities exist among the social/occupational classes in the populations of developing countries—in which there are as great, if not greater, differentials of income, housing, and overall quality of life.

In summary, the present trends are favourable in several sectors of health and socioeconomic development, and this can be taken as an indication that substantial improvements are possible even in the least developed countries. At the same time, deep-seated problems remain. In crucial sectors, there has been little or no progress—for

example, in per capita income and population growth rates in Africa. Even where there have been quantitative gains, functional improvements may not have followed — for example, in manpower development in many regions.

In any case, and whatever the analytical detail, the burden, in the developing world, of illness that can be treated and deaths that can be prevented is beyond any acceptable norm. In addition, the goal of health for all by the year 2000 demands that entire populations (of communities, provinces, and nations) have access to effective health care based on the primary health care approach, and that certain indicators of progress be achieved by the turn of the century. In many instances, the required rate of progress should be more rapid than recent trends indicate.

1.2 Current problems of health manpower development

The socioeconomic disparities that exist within and between countries are reflected in the development of health manpower. There have been substantial increases in the number of health personnel over the past 20 years; for example, using physicians as a general indicator of manpower, there has been an improvement in the population-to-physician ratio in the low-income countries from 38 000 to 16 000 (the World Bank excludes India and China from these figures) and in the lower-middle-income countries from 28 000 to 8000 (Table 3). (These data are presented to illustrate trends and not to suggest that national ratios of population to manpower should be used as guides in determining health manpower requirements. More detailed health manpower trends are discussed in section 3.2.)

Despite such improvements, extensive problems of health manpower development remain.[1] Many of these problems result from the fundamental problems that exist in the socioeconomic system within which that manpower functions. One example is the gross imbalance that exists in some countries in the allocation of resources for the different sectors of the economy. In many countries, the allocation of resources to health has a low priority in the national budget. More political, professional, and financial support will be required to formulate and implement comprehensive

[1] *Global health manpower development medium-term programme, 1984–89*. 1983 (unpublished WHO document, HMD/83.1).

Table 3. Some quantitative health manpower indicators

	Population per physician		Population per nurse	
	1960	1980	1960	1980
Low-income countries	**12 222**	**5 785**	**7 217**	**4 868**
China	8 330	1 920	4 020	1 890
Ethiopia	100 470	58 490	14 920	5 440
India	4 850	3 640	10 980	5 380
Nepal	73 800	30 060	–	33 420
Pakistan	5 400	3 480	16 980	5 820
Zaire	79 620	14 780	3 510	1 920
Lower-middle-income countries	**28 870**	**7 751**	**4 925**	**2 261**
Brazil	2 670	1 700	–	740
Egypt	2 550	970	1 930	1 500
Guatemala	4 420	8 600	9 040	1 620
Indonesia	46 780	11 530	4 510	2 300
Ivory Coast	29 190	21 040	2 920	1 590
Nigeria	73 710	12 550	4 040	3 010

manpower policies and strategies based on the primary health care approach.

The Expert Committee made it clear that appropriate manpower policies must form the basis for national strategies aimed at achieving health for all. Several countries have formulated manpower policies; however, only a few of them have health manpower systems based on those policies and plans. This is often a result of the lack of firm political commitment to a health manpower policy that is coordinated with development policies in other sectors. It is encouraging to see that an increasing number of countries are preparing manpower plans, although the emphasis has usually been on the quantitative projection of health manpower requirements, often dealing with one occupation at a time. Specifying the competence required by each health worker to carry out health-related tasks and ensuring the relevance of planning, education, and performance evaluation to national needs and priorities (qualitative planning) are sadly lacking. Despite significant improvements, there is still an overall lack of national skills in developing and implementing manpower plans based on the needs of the health system.

Another important problem is the frequent lack of, or poor coordination between, manpower planners, producers (especially universities), and the health services. This lack of coordination in the health manpower development process has often resulted in the development of manpower plans that are irrelevant to community

health requirements and that are therefore not implemented. However, partly as a result of WHO's efforts during the past few years, intersectoral coordinating mechanisms (e.g., national health councils, health development networks) that contribute to the integrated development of health systems and health manpower are being established in a number of countries.

Reliable information systems at both the local and national levels are needed to assist this development and to review regularly and revise the policies and plans and their implementation. Quite often, an impressive amount of data are gathered, but there is no system for the processing, storage, and retrieval of appropriate data and, perhaps more important, for its subsequent use in decision-making.

Many countries have been intensifying their efforts to develop new categories of health worker (e.g., community health workers) to complement those in the established health system, as a way of extending health care to the whole population, especially those in rural and underserved urban areas. In this context, many countries have recognized the changing roles of the nurse, the intermediate-level worker, and the peripheral health worker, and have begun training programmes to prepare them, as well as traditional birth attendants, for expanded roles at the community level.

Despite considerable efforts to establish and strengthen institutions and train teachers for them, training establishments are often in short supply, and lack facilities. Further efforts are required to assure the relevance of basic, advanced, and continuing education for health workers. Related to the improvement of curricula is the need for the development, testing, reproduction, and effective use of appropriate teaching/learning materials.

The shortage of certain categories of health worker remains a common problem in the developing world. In the least-developed countries, there is 1 health worker per 2400 people, compared with 1 per 100 people in the industrialized countries. Moreover, the unsatisfactory deployment of these health workers is such that the majority of them, often 80%, are working in and around urban areas where only about 20% of the population live. Few countries have a manpower distribution pattern that conforms to the real needs of the community, and health personnel often work within a health system that offers no career structure and few or no job incentives.

Although more countries are developing training programmes to improve the quality of staff supervision, there are serious deficiencies in this field. Few countries have developed procedures for

monitoring and assessing the performance of health workers that can be used to adjust the planning, training, and use of health staff. There are too few people with managerial skills at all levels for the planning, administration, and evaluation of the implementation of national strategies to achieve health for all. However, a majority of countries have recognized that the strengthening of health management, and within it the management of health personnel, is a priority activity.

Systems of continuing education, integrated with supervision at all levels of the health system, help to maintain and upgrade the competence and increase the productivity and job satisfaction of all categories of health worker. A few countries have developed such systems; in general, efforts have been sporadic, with no systematic approach towards promoting progressive, sequential learning within the framework of professional growth and career development schemes.

Research findings should form the basis for decision-making in the health manpower development process and for improving its relevance to, and effectiveness in, a health system based on the primary health care approach. Unfortunately, only a very small proportion of most health budgets is allocated for health manpower research aimed at improving the planning, training and use of human resources in health.

Some countries are encouraging community participation in decisions affecting the health manpower development process. However, much remains to be done to achieve real community involvement in the planning and monitoring of health manpower systems.

An almost universal problem is the resistance to change on the part of some of those responsible for formulating and implementing policies and plans. This applies especially to health professionals who often view the emergence of health systems based on the primary health care approach as a threat to their position. Educational institutions do not readily make changes because, *inter alia*, the traditional values and procedures appear to be the safer course.

Although there are still many problems to be faced in improving the performance and the relevance of the national health manpower development process in many countries, much progress has been made during the past few years. The increasingly widespread channelling of effort into applying national strategies for health for

all is already encouraging countries to take a logical approach to the planning, training, and deployment of health manpower.

2. HEALTH FOR ALL: THE CONTEXT OF HEALTH MANPOWER DEVELOPMENT

2.1 Health for all by the year 2000: its origin

The commitment of the Member States of WHO to the goal of health for all by the year 2000 had been presaged by the General Assembly of the United Nations which proclaimed in 1974 (UN resolution 3201 (S-VI)) its united determination to work urgently for the establishment of a New International Economic Order in order to "correct inequalities and redress existing injustices, make it possible to eliminate the widening gap between the developed and the developing countries and ensure steadily accelerating economic and social development and peace and justice for present and future generations". All component bodies of the United Nations were entrusted with the implementation of this programme of action for the establishment of a new international economic order.

The adoption of this resolution by the United Nations General Assembly was an important milestone in the age-old struggle for equity and justice, a struggle that has intensified during the last forty years since the end of the Second World War, with the dissolution of the colonial empires and the emergence of the newly independent countries of Asia, Africa, and the Caribbean.

Thus when the Thirtieth World Health Assembly met in May 1977, the way had been prepared for a unanimous decision by the then 152 Member States of WHO that: "... the main social target of governments and WHO in the coming decades should be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life" (resolution WHA30.43) (*3*).

This long-term objective of health for all would be the impetus for concerted action to resolve the intolerably inequitable distribution of health resources throughout the world, particularly with respect to developing countries.

Adoption of this universal target implies that there is a minimal acceptable level of health for all people that enables them to work productively and to participate actively in the life of their society.

The particular health status, as well as the socioeconomic and political situation, in each country will determine in each case the sequential levels of health that will be the realistic interim targets to be reached in order to achieve health for all. Health for all is not, therefore, a static target but a way of progressively improving the health of all people.

Health for all does not mean, however, that sickness and disability will be conquered or that technically advanced medical care will be available to everyone in the world. It does mean that: "...health begins at home, in schools and at factories. It is there, where people live and work, that health is made or broken. It does mean that people will use better approaches than they do now for preventing disease and alleviating unavoidable disease and disability and have better ways of growing up, growing old and dying gracefully. It does mean that there will be an even distribution among the population of whatever resources for health are available. It does mean that essential health care will be accessible to *all* individuals and families in an acceptable and affordable way, and with their full involvement. And it does mean that people will realize that they themselves have the power to shape their lives and the lives of their families, free from the avoidable burden of disease and aware that ill-health is not inevitable" (*4*).

2.2 Primary health care: the key to health for all

It was at Alma-Ata that primary health care was identified as "the key" to attaining the social target of health for all. The Declaration of Alma-Ata defined primary health care as: "...essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part of both the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process" (*5*).

It is through primary health care that country-wide programmes can be developed with the involvement of the entire population, in

the promotion of health, the prevention of disease, and in the diagnosis, treatment, and rehabilitation of the sick.

The Declaration of Alma-Ata stressed community involvement at every stage of the health development process: identification of problems, setting of priorities, determination of appropriate solutions, and full participation in the implementation and evaluation of planned activities. Such community involvement, in harmony with the spirit of self-reliance and self-determination, is the antithesis of the practices that have generally prevailed, i.e., passive acceptance by communities of the services offered by health care providers.

The Declaration of Alma-Ata also emphasized that other sectors must contribute to primary health care; agriculture, education, housing, public works, communications, etc., must all play decisive roles in such matters as community health education, the provision of safe drinking-water, the disposal of human waste, and the provision of adequate housing.

The Alma-Ata Conference was remarkably forthright on two fundamental issues—prevailing inequities and development. It declared that "The existing gross inequality in the health status of people, particularly between developed and developing countries as well as within countries, is politically, socially and economically unacceptable and is therefore of common concern to all countries". With respect to development, health was recognized as being linked to the quality of life, the improvement of which is the principal objective of all socioeconomic development. Development can be viewed as a single unified process to which health is a contributor and from which it is also a beneficiary.

Thus, primary health care is seen as an approach to national health development that has four main pillars: a health system in which all other echelons are geared to support the level closest to communities; equity in the distribution of health resources so that entire populations are covered; communities actively participating in the planning, implementation, and evaluation of health services; and active interaction between health and other sectors.

Just one year after the Alma-Ata Conference, in November 1979, the United Nations General Assembly took the unusual step of giving explicit support to a health initiative; by adopting resolution 34/58, it endorsed the Declaration of Alma-Ata, recognized health as an integral part of development, and "called upon the relevant bodies of the United Nations system to coordinate with and support

the efforts of WHO by appropriate actions within their respective spheres of competence".

2.3 The Global Strategy for Health for All

The Thirty-second World Health Assembly in 1979 (resolution WHA32.30) encouraged Member States to formulate national strategies for the attainment of health for all. Based on these national strategies, regional strategies were developed in each of the six WHO Regions. Finally, a global strategy was devised and then adopted by the Thirty-fourth World Health Assembly in 1981 (resolution WHA34.36). The Global Strategy for Health for All is therefore a true expression of the collective interests of all the Member States of WHO, both developed and developing countries, and of the belief by Member States that peoples everywhere will benefit from international cooperation in this collective enterprise.

The Global Strategy is based on a series of fundamental policies of the World Health Organization (*4*):

- health is an integral part of development;
- health is a fundamental human right and a worldwide social goal;
- existing gross inequalities in health status and the inequitable distribution of health resources, both among and within countries, must be drastically reduced;
- community participation, individually and collectively, in the planning and implementation of health care is a key factor;
- political commitment of the nation as a whole, and not only the ministry of health, is essential for the attainment of health for all;
- countries must become self-reliant, though not necessarily self-sufficient, in health matters;
- coordination among sectors is necessary to support economic and social development;
- better use must be made of the world's resources to promote health and development through technical and economic cooperation.

The main emphasis of the Strategy is the development of health system infrastructures for the provision of health services, based on the primary health care approach, that will reach entire populations.

Specific implementation measures are outlined in the Strategy that are applicable to individuals and families in their homes, to communities, to the health services at primary and supporting levels, and to other sectors. Each country should select the measures that are appropriate to its own circumstances and are scientifically sound, adaptable, acceptable, and affordable. The Strategy also emphasizes the absolute necessity for social control of both the health infrastructure and the implementation.

The Strategy identifies those international activities that will be essential for the support of national endeavours, including information exchange, the promotion of research and development, training, coordination among sectors, and strengthening the essential elements of primary health care.

2.4 Placing health manpower development in the context of health for all

At the Twenty-ninth World Health Assembly in 1976, it was first recognized that there is a need for a "new and vigorous effort" to remedy the long-standing problems of health manpower deficits, including inadequate and irrelevant training, that result in poor health coverage of populations. The relevant resolution (WHA29.72) requested WHO (*3*): "to intensify efforts to develop the concept of integrated health services and manpower development so as to promote manpower systems that are responsive to health needs, and to collaborate with Member States in introducing a permanent mechanism for the application of the concept and in adapting it to the requirements of each individual country".

WHO was also requested to support specific activities in Member States in each of the three main areas of the health manpower development process: planning, education and training, and management, in the spirit and context of health systems and manpower development.

The decision of the World Health Assembly in 1977 that health for all should be the main social target of governments and WHO, together with the Declaration of Alma-Ata in 1978, in which the primary health care approach was identified as the key to attaining the target of health for all, have had a strong and irrevocable impact on every aspect of health manpower development, which is central to the development of health systems. The formulation of the Global Strategy for Health for All, and the development of the Seventh

General Programme of Work for 1984–1989 (6) and subsequently the Medium-Term Programme[1] of the Organization for the same period have set the operational framework for health manpower development.

The Global Strategy and the Seventh General Programme of Work can give only general guidance to the Organization's activities. Further detailed analysis of the specific implications of health for all for health manpower development is required. The present Expert Committee was convened to review critically the health manpower development policies and strategies of WHO; to identify those that are relevant to health for all, and those that will need to be further developed; and to recommend to the Member States and the Director-General of WHO priority activities that will need to be undertaken, promoted, and supported to ensure that the health manpower requirements for attaining health for all can be met at the national level (see section 6, recommendation 1).

3. HEALTH MANPOWER: A HISTORICAL PERSPECTIVE

3.1 An analytical framework

Within the context of the development of Western medicine, three broad historical periods or eras can be identified—the individual care era, the community care era, and the health for all era. This analytical framework can also be used to trace the evolution of the major ideas and changes that have occurred in the field of health manpower development.[2]

3.1.1 *The individual care era*

During this period, which extended approximately from the latter part of the 19th century to the Second World War, curative medicine was the preoccupation, and a relatively unstructured system of health manpower was concentrated on doctors whenever Western medicine was the predominant influence. Nurses and auxiliaries were trained to assist the doctors in health care facilities. In both

[1] *Global health manpower development medium-term programme 1984–89*. 1983 (unpublished WHO document, HMD/83.1).

[2] BRYANT, J. *Mobilizing universities for health for all*. 1983 (unpublished WHO document, DGO/83.4).

developed and developing countries, with some exceptions, the mode was consistent: medical care was provided to as many as possible of the patients who could reach the doctor's services. As was to be expected, in the medical schools the emphasis was on curative medicine. However, while the interest in individual care through curative medicine predominated, this was also the period of Koch and Pasteur and of the great public health movements.

3.1.2 *The community care era*

By the time of the Second World War, more attention was given to the role of social factors in health, to preventive medicine, and to extending health services so as to provide greater coverage of the population. The single-tier system of doctor-centred care was replaced in most countries by a two-tier system: at one level, doctors and nurses provided care in hospitals and major health centres, and, at a second level, auxiliaries staffed a network of health centres and dispensaries, often covering surrounding communities by means of mobile teams. The shortcomings were still substantial: the extension of services to populations was seriously limited by shortages of manpower and resources, and communities were still being "provided with" services and were not involved in the development of those services. In the medical schools, the study of curative medicine remained dominant but increasing emphasis was given to social and preventive issues, and disciplines such as epidemiology and the behavioural sciences were recognized as being relevant to the health sector.

3.1.3 *The health for all (population care) era*

Although some countries had already taken a few tentative steps towards the concepts inherent in health for all, the action of the World Health Assembly on health for all in 1977 represented a decisive shift towards the beginning of a new historical period in international health, which is still in its infancy. Not only are the objectives qualitatively different, but so are the means by which they are to be attained. The several objectives of health for all—universal coverage of populations with essential health care, relevance and effectiveness of services to current and emerging health needs, community involvement, and intersectoral cooperation—serve to emphasize the reason why this historic movement of WHO is

identified as centring on "health for all" and not more simply on "health services for all".

The objectives of health for all and the fundamentals of the primary health care approach often call for a three-tiered system of health services and manpower in the developing countries: the training and use of community health workers, or other forms of community engagement in health-related activities; the preparation of middle-level workers to provide community health workers with essential supervision, technical and logistic support, and continuing education; and the supervision and support of the preceding two levels by physicians, nurses, and other health professionals (see Fig. 3, page 38). The precise arrangements made must be country-specific, but of universal importance—much more so than in the two previous historical periods—will be the close relevance between the competencies required to fill those roles at each level, and the learning settings and experiences related to health for all.

This analytical approach emphasizes the degree of change that is necessary if health systems and health manpower are to be consistent with the principles of health for all. It is not so improbable that the necessary changes will occur, although they are extensive and even radical, given the scope of the changes that have already occurred.

3.2 World trends in health manpower

Fülöp & Roemer analysed the trends in global health manpower development covering a thirty-year period, including types and quantities of manpower, performance (quality, efficiency, and relevance), policy issues (planning and coverage), and the extent of integrated development of manpower with health services (*7*). It is instructive to review this historical perspective and identify the trends that relate to health for all.

3.2.1 *Quantities*

The trend in health manpower density (number of personnel per 100 000 population) is clear, not only for physicians and dentists, but also for nurses and midwives, auxiliary nursing personnel, and laboratory and X-ray technicians: there has been an overall global increase, but with very much slower rates of growth in the developing countries. For nurses and midwives, the growth in density between 1965 and 1975 for developed countries was 26.7%,

compared with 11.5% for developing countries. The rate of growth in physician density in Europe during the same period was 82.6%, almost twice that of Asia. In Africa, the physician density was the poorest of any major world region in 1950, and it remained so in 1975.

3.2.2 *Performance*

Trends in personnel performance have been difficult to assess, but they are not very encouraging. On the basis of the limited data available, it may be concluded that the academic quality (i.e., in the sense of academic excellence) of health professional preparation has probably improved. Regarding the relevance of health sciences curricula to the needs of each country's health services, progress has been very slow although there has been an increased emphasis in some countries on the concepts of primary health care and preventive and social medicine. There has been even more limited progress in the development of approaches to educational planning and processes and the community-orientation of curricula. Despite efforts to foster teacher-training concepts in schools for health professionals, extrapolations from a limited study show that by the end of the 1970s, no more than an estimated 25% of nursing schools and 10% of medical schools throughout the world, had defined explicit learning objectives for their programmes. No more than 5% of the world's medical schools were community-oriented and educating physicians in a way that is truly relevant to the health needs of the population to be served.

3.2.3 *Planning*

It is difficult to generalize the global trends in health manpower planning, except to note that most countries find it useful to have information on the numbers and ratios to population of the various types of health personnel. In centrally planned economies, more deliberate and systematic efforts appear to have been made to plan for health manpower on the basis of an assessment of population needs. Elsewhere, market considerations—numbers, rates of production, extent of demand, and estimated incomes of health personnel—appear to exercise a predominant influence on manpower development.

3.2.4 *Coverage*

One crucial feature of coverage is the geographical distribution of health personnel, with physicians representing one category of such personnel. There are clear disparities in physician density between the urban and rural areas of developing countries and these may even have increased in recent decades. In some developing countries, physician density is five times greater in the urban areas than in the rural areas. In some countries of Africa, for example, 50–75% of physicians are in the capital city where less than 10% of the population live. Out of 11 developing countries for which data are available, 4 show an improvement in the distribution of physicians and 6 show a deterioration, while in one country the distribution remained unchanged (*8*). It is quite common to find that while 80% of the population is rural, 80% of the trained health manpower is located in the urban areas.

Such experience prompted a shift in the health manpower strategies of many developing countries to concentrate on the training of middle-level health personnel. It was thought that this strategy could provide substantial improvements in population coverage. However, it has become apparent that countries must go even farther, beyond the use of such personnel, to the training and use of health workers at the community level in order to achieve universal coverage.

Uneven geographical distribution of personnel within countries is also a problem in developed countries. In the United States of America, for example, in 1978, the physician density in Washington, DC, was 585 per 100 000 population compared with 109 in Mississippi and South Dakota, 106 in Puerto Rico, and 66 in outlying areas. Even in states with seemingly high physician densities, such as Vermont (205, which is well above the national average of 182), there is maldistribution within the state: most of Vermont's doctors are concentrated in Chittenden County (density 445), where the state medical school and the largest city are located (*9*).

3.2.5 *Health systems and manpower development*

The key health manpower concept introduced in 1976 was the integration of health systems and manpower development (see section 3.4). What has been the extent of that integration? While the evidence is inconclusive, it appears that closer administrative

relationships are being developed between health ministries and organized health programmes, on the one hand, and the universities and other training institutions, on the other. In many countries, both developed and developing, national health councils and national health development networks have been established and through these there is an interchange of information about various needs, problems, and plans, including manpower.

3.3 The evolution of WHO's health manpower development policy

Fülöp & Roemer (*7*) analysed the evolution of international health manpower policies and the development of the health manpower development programme within WHO over three decades. Four periods were examined: period I, 1948–51; period II, 1952–61; period III, 1962–72; period IV, 1973–80.

Eight health manpower policy objectives were identified, generally in the chronological order of their appearance (Table 4).

Table 4. Health manpower policy objectives: approximate evolution in WHO from 1948 to 1980, by time-period and degree of importance (*7*)*

Objectives	Period I 1948–51	Period II 1952–61	Period III 1962–72	Period IV 1973–80
Quantity of conventional personnel	xxx	xxx	xx	x
High quality of medical and nursing education	xx	xxx	xx	
Equality of credentials cross-nationally		xx	x	
Geographical coverage in countries		xx	xxx	xxx
Efficiency of production and use of health personnel		x	xx	xxx
Planning of health manpower			xx	xxx
Relevance of health personnel		x	xx	xxx
Integration of the development of health systems and manpower			x	xxx

*The appropriate degrees of importance are indicated in the various columns, from little importance (x) to very important (xxx).

During the early years of the Organization (periods I and II), the first three health manpower development objectives—increased quantity, improved quality, and cross-national equivalence—were given priority. The major influences at work were undoubtedly the aftermath of the Second World War and the break-up of the colonial empires; and the main problem was the marked shortage of personnel in many countries. The objective was to train conventional types of health personnel, such as doctors and nurses, in large

numbers and as quickly as possible, whether in their own countries or overseas, but always to the high-quality standards of the developed countries. Second-class standards were unacceptable to the newly independent countries, and any deviation from the cross-national equivalence of health professional education was criticized by local upper-class families and leaders of the medical profession.

In the 1960s (period III), the "equivalence" goal receded as other realities, i.e., geographical coverage, manpower planning, and efficiency, became more important. The obsession with quality—synonymous with so-called "academic excellence" and standards of highly developed countries—was also increasingly discounted as the irrelevance of the training of graduates of the medical (and other health professions) schools became increasingly evident. The recognition that their training was obviously inappropriate merged with the demands of the people that the education and training of personnel be made more relevant to the needs of the health services. It was during this third period that the policy objective of relevance influenced both the adaptation of curricula to local needs, and the establishment and development of departments of social and preventive medicine in medical schools. This concern for relevance also gave rise to the concept of integrated health systems and manpower development as the strategy for achieving it, and throughout the 1970s (period IV) the major emphasis was on this strategy.

Reflecting on historical trends inevitably draws attention to the future. What policies are currently evolving? (They would constitute period V, 1981 onwards, under the Fülöp-Roemer scheme.) The predominant tasks of the current era seem to be the consolidation and implementation of the concepts that have already been developed but have not yet been fully implemented. However, this does not mean that no other fresh concepts need to be developed. Certain ideas drawn from the wider concepts can be considered as key entry points for understanding how to proceed with implementation. The present concern is the periphery where the health personnel are at work, interacting with the individuals, families, and communities they are intended to serve. The Expert Committee believed that the following issues will be important in the near future:

—How effective are the health systems in addressing the major health problems of concern to communities?

—How equitable is the coverage of the health system?
—How satisfactory is the involvement of communities and other development sectors in the processes of health systems and manpower development?
—How well is the health manpower able to deal with these problems and interactions?
—What are appropriate and practical managerial systems for monitoring these peripheral functions?

3.4 The concept of integrated health systems and manpower development

When the first long-term health manpower development policy and strategy was being prepared for the World Health Assembly in 1976, three fundamental principles were proposed:

(1) A hierarchy of aims:

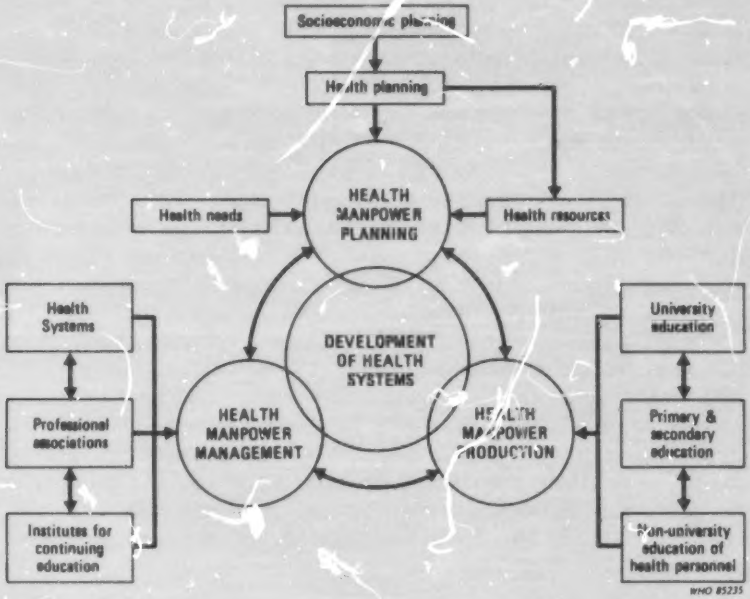
—satisfaction of the health needs of entire populations;
—the development of health systems to satisfy those needs;
—the development of health manpower to serve the development of health systems.

(2) Each level of health systems should be the responsibility of the most suitably trained health workers, and not of the most "highly" trained staff, while the support needed by such staff should be provided by personnel at higher levels.

(3) The three main components of the health manpower development process—planning, production, and management—should be functionally integrated, and these integrated, in turn, with health systems development. Thus, the concept of the integrated development of health systems and health manpower was articulated (Fig. 1) (*16*).

In theory, the planning subsystem determines the qualitative and quantitative requirements for manpower, the production subsystem trains the specified types and numbers of personnel, and the management subsystem employs and monitors those trained, and provides feedback so that all three subsystems can continuously adjust to the ever-changing needs of development of effective health systems. Of course, this is an idealized form of health systems and manpower development that cannot be expected to be fully operational in the real world, at present. Nonetheless, the concept

Fig. 1. Interrelationships in health systems and manpower development and some of the national bodies involved*



*Modified from Fülöp (*10*).

is clear and provides logical guidelines that should be followed at the country level.

Applying the concept of health systems and manpower development requires formal and permanent institutional mechanisms to foster continuous dialogue and to ensure effective collaboration and coordination among the various governmental and nongovernmental agencies responsible for the many aspects of health systems and manpower development. The mechanisms will necessarily be country-specific, but, in general, agencies other than health and education ministries and universities will need to be represented including, among others, finance and planning agencies, social welfare, community development, agriculture, labour, communications, and public works, as well as professional and other nongovernmental and community organizations.

The multisectoral national health councils, that have already been established in many countries as recommended in the Global Strategy (*4*), might also provide national mechanisms of health systems and manpower development. The secretariat function for these mechanisms might be assumed by the national health development networks, which also exist in many countries; the duties would involve preparing alternative decisions based on reliable data and promoting, following up, and monitoring the implementation of decisions taken by the national health councils. The Expert Committee outlined some actions countries could undertake in order to make the health systems and manpower development concept operational (see section 6, recommendation 2).

While these national health councils and national health development networks have considerable potential as supportive bodies, it must also be recognized that the national environment for health systems and manpower development is essentially political, and that a wide variety of forces, constraints, and confrontations among organizations that have historically pursued their own objectives are involved. The Expert Committee considered that to make these institutional mechanisms work will require the cooperation of the various parties in working together, as well as the full commitment of leaders in these fields (see section 6, recommendation 3).

4. HEALTH MANPOWER DEVELOPMENT: MEETING THE NEEDS OF HEALTH FOR ALL

4.1 Essential interactions

The historical separation of functions among various structures and organizations has resulted in the health manpower development process being divided according to its three components—planning, production, and management—each belonging to different authorities. Planning and management are usually under the jurisdiction of the health system, and large sections of production are under the control of the educational authorities (exceptions are inevitable). The problems begin when the individual components are pursued in isolation.

The specification of health systems and manpower development as a central principle of manpower development has served to emphasize the importance of combining the three components so that there is effective interaction with one another and with the health systems. It is useful to review some central issues of health manpower development in order to understand more fully these crucial interactions.

An analogy can be made between the three major components, planning, production, and management, and the sequence used to solve any scientific problem: statement of the problem (with a setting of priorities among problem components); development of solutions (a series of alternatives from which optimum solutions are selected); and implementation of solutions, including evaluation, the latter including the re-examination and refinement of the preceding steps, and leading to continuous reiteration of the cycle. Such cycling is at the heart of the health manpower development process although the exact sequence may vary widely because the national or local situation in which the process is taking place is constantly changing.

Within this overall problem-solving process, there are well known subprocesses: planners, educators, and managers of health manpower each have their own "cycles" for dealing with their own problems. But, none of the three subprocesses can function independently of the other two:

- manpower planners acting independently of production and management become paper planners only;
- educators and trainers acting in ignorance of either planning requirements or the field experiences of their graduates have abandoned the logic of purposeful education with the result that their graduates are not trained in those areas relevant to the needs of society;
- health services managers who seek to meet their manpower needs without reference to manpower plans or educational preparation have given away their most important management tools including that of influencing the preparation of manpower they seek to use.

In discussing these matters, the Expert Committee focused attention closely on the weaknesses in the interaction among the three components and with the health system. The Committee also identified the following two major problem areas that must be dealt

with effectively if those interactions are to bring greater coherence to manpower development:

- —the need for a full understanding of what is required of graduates of educational and training institutions, i.e., the health personnel, including their roles, competencies, and relationships in the health system based on the primary health care approach in which they are to work;
- —the need for more participation by communities in the various phases of the health manpower development process, which is much discussed but seldom seriously pursued.

These problem areas will be considered briefly before the individual components of the health manpower development process are discussed.

4.1.1 *Defining the characteristics of graduates of educational and training programmes*

It seems obvious that the roles to be fulfilled by graduates of educational and training programmes should serve as a basis for determining the content and methods of learning, yet this process is seldom given careful attention. Most often, the roles are taken for granted, based largely on outmoded recollections, or on the assumption that graduates can adapt to the situation in which they find themselves. Furthermore, the training institutions often do not even consider it necessary to train students for well-defined roles and functions. When graduates complain that their preparation was not adequate, the programmes are only occasionally modified.

To ensure the relevance of health manpower preparation it is necessary that there is a full understanding of the personal and professional competencies, including the intellectual and practical skills, values, and attitudes required if health workers are to function effectively in the settings to which they are assigned. The development of such an understanding involves several problems:

- —the roles to be filled may not yet exist but are planned; this is a common occurrence in evolving health systems;
- —the roles have social and managerial as well as technical aspects, that require an interdisciplinary approach to role definition and training;
- —the roles of each health worker include establishing and

maintaining important relationships with others, and this requires consideration of the overall function of a team as well as training for teamwork;

—the roles involve close interaction with communities, which requires not only an understanding of the nature of that interaction, but also calls for the participation of communities in the process of role definition.

The idea of defining the characteristics of the graduates might be seen as applying solely or mainly to the education and training component of health manpower development, but further reflection shows that planning and management must also give careful attention to the nature of these characteristics. Planning must go well beyond numbers of personnel, to include their roles and competencies; by taking these factors into account, the feasibility and costs of production and use can be considered. Management must ensure the efficiency and effectiveness of manpower and must, therefore, have a clear idea of the roles the graduates should play with regard to supervision, monitoring, and evaluation of health manpower.

Each of the three components of the health manpower development process, planning, production, and management, employs its own problem-solving cycle. Those cycles, which bring the scientific method to bear on manpower problems, carry considerable methodological power. But that power can become their weakness. Used in isolation and not in the context of evolving health systems and the roles they require, a cycle can become an end in itself rather than a means to an end, e.g., the development of an elegant manpower plan (which is exclusively quantitative and/or not implementable); the formulation of methodologically refined curricula (which have little relevance to the roles to be filled); the building of a sophisticated monitoring system for managing manpower (which fails to include indicators to evaluate the functions the health personnel should be carrying out).

It is crucial, therefore, that these problem-solving cycles be anchored in the reality of the health care that needs to be provided. From a manpower perspective, that anchor is to understand the roles of health personnel defined jointly, by those who should anchor to it—planners, producers, managers—and by others for whom it is important, including health workers, communities, students, and recent graduates with field experience.

4.1.2 *Involvement of communities in health manpower development*

Community involvement in health matters is the cornerstone of the primary health care approach. This involvement is not simply to give a social orientation to health activities. Rather, the primary health care approach should relate fundamentally to societal values, social justice, and to how people govern their affairs and conduct their lives. There are two sets of ideas, one concerned with social justice and human values, the other with the role of the community in supporting practical programmes aimed at health improvement. Health personnel play a pivotal role in both instances because they invariably form the liaison between health systems and the community.

(1) The involvement of communities (individuals, families, villages, organizations) in health matters should be considered in relation to the larger processes of social development:

- insistence on social justice is a central theme in the major social and political movements of the world in developing and developed societies alike. The health for all concept itself arises from the imperative of social justice: equity in health is the basic premise of this concept and community involvement is the mechanism for assuring its implementation;
- dependency is a pervasive factor in underdevelopment, and active community involvement in health programmes can promote self-reliance as an alternative to dependency. This is no distant hope. Communities are able to express concerns about the health problems facing them, take part in programmes aimed at dealing with those problems, and ensure that these programmes are in keeping with the local culture and traditions rather than simply being linked to the larger forces of economic and technological development.

(2) Community involvement in health development has great practical importance for health programmes, for at least three reasons:

- the economics of health care in developing countries are such that effective networks of primary health care, however simple, cannot be developed without the resources that are available through community involvement. For example, health system

budgets often cannot support an adequate number of fully-paid health workers to reach all communities effectively; but community health workers (who are volunteers or only nominally paid, but have community support) can provide a permanent health presence in virtually every community, even in those that are nomadic.

— convincing people to change health-related behaviours requires a combination of appropriate information and social motivation. Communities can promote increased awareness of health problems, changes in lifestyle, and more appropriate use of health services, to individuals and families.

— to be effective, health systems should interact with the political, economic, and social structures of communities. Health personnel require guidance from the community on how best to pursue programmes within the constraints, interests, and idiosyncrasies of community life. Without such access to community perspectives and participation, and without any accountability to the community, a health worker can easily become distanced from the real health needs of that community.

Thus, the Global Strategy (*4*) defined community involvement as a process by which a partnership is established between the government and local communities in the planning, implementation, and use of health activities, to achieve increased local self-reliance and social control over the infrastructure and technology of primary health care (see section 6, recommendation 4).

4.2 Planning the health manpower required for health for all

The Declaration of Alma-Ata deals only in general terms with health manpower, indicating that primary health care "...relies at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team, and to respond to the expressed needs of the community" (*5*).

Each government is thus free to specify its own manpower requirements, and this will require appropriate manpower policies and plans, based on a clear understanding of the manpower roles in the particular country. The WHO Executive Board has drawn

attention to the distinction between policies, strategies, and plans (*11*) "National policies, strategies and plans of action form a continuum, and there are no sharp dividing lines between them ... A national health policy is an expression of goals for improving the health situation, the priorities among those goals, and the main directions for attaining them. A national strategy, which should be based on the national health policy, includes the broad lines of action required in all sectors involved to give effect to that policy. A national plan of action is a broad intersectoral master plan for attaining the national health goals through implementation of the strategy. It indicates what has to be done, who has to do it, during what time frame, and with what resources. It is a framework leading to more detailed programming, budgeting, implementation and evaluation". A similar distinction exists between health manpower policies, strategies, and plans.

4.2.1 *Health manpower policy formulation*

Health manpower policy must be formulated within the broader context of the national policies for health and for social and economic development, as well as in accordance with the traditions, history, values, and aspirations of the country and its people. A sober and frank assessment of the extent to which popular participation in government is encouraged is also important. Most importantly, health manpower policy must be firmly anchored to the national strategies to achieve health for all, which identify suitable entry points for fostering health development and ways of ensuring the achievement of health for all. A majority of countries have either already formulated their national strategies or are in the process of reviewing and adjusting their existing national strategies to bring them into line with the primary health care approach.

The Expert Committee forcefully expressed the view that the essence of primary health care is democratization. For manpower development, the implications are not simply for incremental change, asking health workers to do a little more here or there, but to proceed with the sometimes radical changes that will be necessary. Primary health care, in this regard, requires active planning from below and substantial support from above. Planning needs both extensive decentralization and input from the most peripheral parts of the system.

The formulation of a health and health manpower policy is heavily dependent on: diverse and reliable information; intersectoral consultation and negotiation; a critical appraisal of, and sensitivity to, the needs, demands, and priorities of communities; a systematic examination of existing policies, procedures, and strategies, especially in the light of the primary health care approach; a clear understanding of the resources available to meet identified needs; and the possibilities of channelling or deploying resources in the direction indicated by the new policies (see section 6, recommendation 5).

The role of the private sector, especially in countries with free-market economies, cannot be ignored. The number of health personnel in the private sector (private practice, religious groups, industry, etc.) can be substantial, and their style and conditions of work can significantly influence the health care system as well as the health personnel in public employment.

Hall & Mejia (*12*) and Hornby et al. (*13*) emphasize that the health and manpower policy formulation process should ideally follow the basic steps of systematic problem-solving, culminating in the selection of the most appropriate strategy for the achievement of objectives. To be realistic, however, whether or not this rational step-wise process is followed exactly will depend on the relative strengths and power of a variety of interest groups, who often have conflicting goals. Bargaining, persuasion, negotiation, and compromise may well continue into the implementation and evaluation stages, and may result in some modification of policy. Although detailed planning of the manpower required for health for all should theoretically proceed after the major outstanding policy issues have been resolved and approved at the highest decision-making level of government, countries seldom follow strictly the order of first completing the definition of policies, then continuing with the formulation of strategies and only afterwards devising plans of action, since these form a continuum (*11*).

The following are examples of health manpower policy issues:

—geographical distribution of health manpower;
—preferential deployment of health manpower to underserved population groups, including the use of practitioners of traditional medicine;
—a system of financing health manpower development;

—community involvement in health manpower development including evaluation of the performance of health workers;
—coordination between training institutions and health systems;
—obligatory service required of senior students of medicine and other health disciplines;
—a system of incentives for service in rural areas.

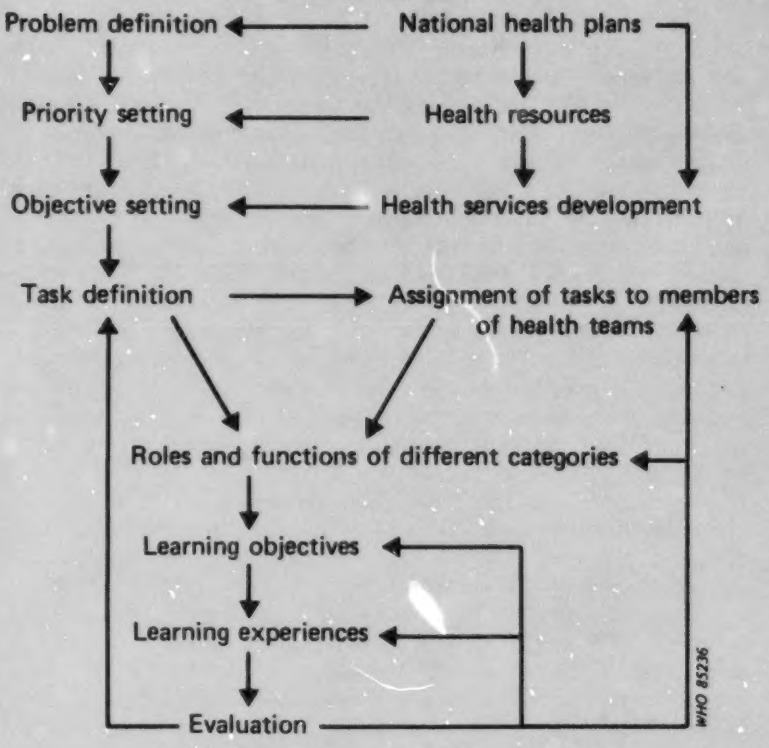
4.2.2 *Health manpower planning*

Health manpower planning must proceed as part of health planning within the larger framework of national strategies for health for all, and serve as a linkage between the health systems that deploy manpower, and the educational institutions and training programmes that train manpower (Fig. 2) (*14*). Health manpower policies, properly formulated, should provide unity of purpose, prevent or minimize competition and confrontation among groups with divergent interests, and provide a firm basis for subsequent wider programming and detailed planning.

The sheer complexity of the task suggests that health manpower training should not be the sole responsibility of a single planner or even a few highly skilled planners, but should involve, at appropriate stages, a broadly representative group with individuals from community organizations, health services and educational institutions, and health and related professional associations. High-level decision-makers should also participate in the process at the appropriate stages.

A reliable data base is as important for health manpower planning as it is for policy formulation, since a major task is to analyse the present country-wide situation, including observable trends. From this situation assessment, the future requirements for health manpower can be forecast, often for a five-year period, in terms of skills and competencies for each category of health worker and in terms of absolute numbers in each category. Health manpower requirements can also be derived from health systems targets, including: qualitative needs; levels of skills, competencies, and range of tasks; composition of health teams and complementarity of tasks; and distribution of staff across the country. The greatest challenge to the planning group will be to reduce the discrepancies that inevitably occur between the requirements and availability of health personnel, in ways that are

Fig. 2. Planning health manpower for health systems based on the primary health care approach



consistent with the principles of health for all. In this connection, there is another responsibility inherent in manpower planning: when it is clear that other sectors do not fully appreciate or are resistant to meeting the needs for health manpower, in terms of both roles and numbers, planners are in the pivotal position and can provide data on needs, costs, and consequences, and in this way can exert influence on health policy-makers and others involved in the health manpower development process. Thus, the responsibilities of planners extend well beyond technical planning to include policy negotiation.

While health manpower planning must be the collective responsibility of a planning group, the expertise of personnel who have been specially trained in manpower planning concepts and techniques cannot be belittled. There is a serious shortage of such persons, which is one of the reasons why health manpower planning has been so widely neglected. To help meet this deficiency, WHO has developed a course book based on a set of ten procedural steps (*13*), which can also be used as an actual planning guide (*15*).

Hall (*16*) stressed that there is no one methodological approach to the estimation of health manpower requirements which is best for all country situations. Each country must select approaches that are suitable to its own needs and conditions. There are no correct international standards for manpower provision, such as specific ratios of doctors, nurses, and other categories, to population; no single pattern of health-team composition at different levels of care. For health manpower planning, there are only guiding principles to be followed and steps to be taken towards the goal of health for all; this should be adapted to the particular needs of a country represented by the national strategy for health for all.

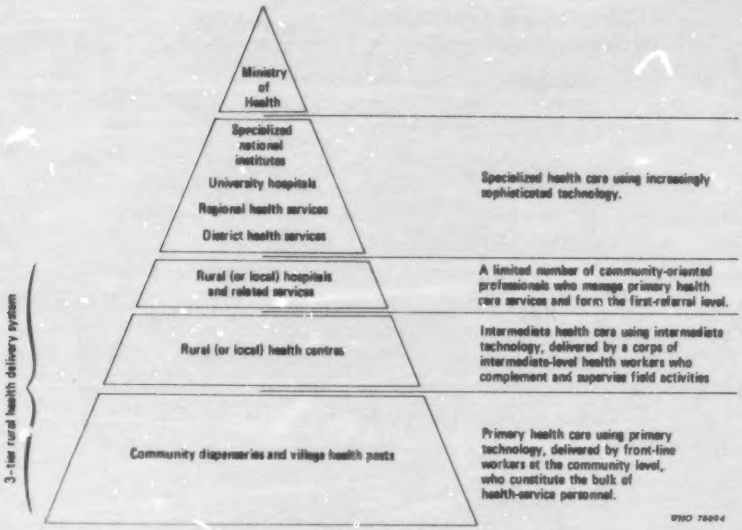
The Expert Committee stressed that while health manpower planning should deal with both qualitative and quantitative aspects of health manpower development, in the past it has emphasized the quantitative aspects. It is evident that unless the qualitative aspects are also considered, the plans will remain paper plans. Thus future manpower plans must devote proper attention to the prospective roles and functions of all categories of health worker, the composition of health teams, and the relationships between different levels of the health system (see section 6, recommendation 6).

4.2.3 *Role of the health team*

A previous WHO Expert Committee (*17*), that was concerned with the training and use of auxiliary personnel for rural health teams, examined the requirements for many different types of health worker at each level of the health services pyramid (Fig. 3). The characteristics of these levels will be reviewed in this section noting in particular the implications for health manpower development.

(1) *The community level.* Primary health care addresses the main health problems in the community, providing promotive, preventive,

Fig. 3. Pyramid of health services*


Ministry of Health
Specialized national institutes
University hospitals
Regional health services
District health services
Specialized health care using increasingly sophisticated technology.
Rural (or local) hospitals and related services
A limited number of community-oriented professionals who manage primary health care services and form the first-referral level.
Rural (or local) health centres
Intermediate health care using intermediate technology, delivered by a corps of intermediate-level health workers who complement and supervise field activities
Community dispensaries and village health posts
Primary health care using primary technology, delivered by front-line workers at the community level, who constitute the bulk of health-service personnel.
3-tier rural health delivery system
WHO 78004

*Reproduced from WHO Technical Report Series, No. 633 (17).

curative, and rehabilitative services. Through careful and comprehensive analysis of the health and related social needs of communities, the services that are needed or demanded can be determined, as well as the volume, periodicity, and distribution of these services.

Such an analysis of community needs should not proceed solely on the basis of professional assessment; it is only through open dialogue with communities and their leaders, that the vital community concerns can be fully understood. Once the needs have been identified, then the numbers, categories, and competencies of the personnel required can be estimated. Such an assessment of personnel requirements may require a redefinition of responsibilities, reallocation of tasks, redeployment of staff, and, possibly, the introduction of new types of health worker, such as the primary health worker (*18*) or community health worker, if the existing

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health workers, e.g., physicians or nurses, are insufficient in number to provide adequate coverage of the population.

Community health workers have now been trained and used in nearly 50 countries, as described in a recent review (*19*). The concept of the community health worker is deceptively simple: "a person from the community who is trained to function in the community in close relationship to the health care system".

Community health workers, including health professionals in countries where they can provide care to the communities, have a dual allegiance (*20*), serving as a bridge between the community and the formal health care system. Belonging to the community, the community health worker is able to initiate and maintain a continuous dialogue with the community; to help identify community problems and those individuals at risk; to involve communities in planning and executing remedial action; and to ensure that the best use is made of available services. On the other hand, the community health worker is the focal point of the health system at the community level, a channel for health services in the promotion of health, prevention of disease, treatment of the afflicted, or care of the disabled. The community health worker can also provide health-related information to be used in planning and managing the broader health system.

Application of the community health worker concept should contribute to the resolution of at least three major obstructions to the development of effective primary health care programmes:

- the need for access of entire populations to the basic elements[1] of promotive, preventive, curative, and rehabilitative services;
- the high costs (almost always prohibitive in the developing countries) of covering an entire population with services when these are provided by the usual professional personnel in the health system;

[1] The eight basic elements are: "... education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs" (*5*).

— the lack of close social relationships between the health system and the population, without which the mutual trust required for the population to participate and be effectively influenced in health and development-related behaviour cannot be developed (*19*).

Countries differ widely in the range of functions assigned to community health workers. While basic curative care—first aid and treatment of simple ailments—appears to be common to all, the way in which this activity fits into the overall pattern of primary health care is far from uniform. In some countries, e.g., China, Ethiopia, Guatemala, Mozambique, Nepal, and Venezuela, promotional and preventive tasks are given great weight, and there is strong emphasis on health and nutritional education, disease surveillance, environmental sanitation, the provision of safe water, and the mobilization for community development activities.

Despite international variations, national experiences are in agreement on one point: the absolute necessity to involve communities in the determination, implementation, and evaluation of the functions of community health workers. Some country experiences also suggest the desirability of developing primary health care teams including the participation of community health workers, practitioners of traditional medicine, and traditional birth attendants, in order to cover adequately the complete spectrum of health care needs. In keeping with the multisectoral nature of the primary health care approach, the community health worker will need to collaborate with workers in other sectors and to foster community development activities in accordance with the community's own priority needs.

In some localities, there are no formally appointed community health workers; rather, members of the community take on those functions. Thus, the community health worker concept involves a network of functions and relationships that emanate from the community.

(2) *Intermediate level.* The second or intermediate level of the health care system based on the primary health care approach provides supervision and support for the community health worker and health care teams at the community level, as well as providing promotive, preventive, curative, and rehabilitative services as required. Health centres at this level serve as focal points from which

supervision can be maintained and to which problems can be referred that are beyond the competency and resources of the community health workers. Another important function of the intermediate level is the provision of continuing education for community health workers through supervision and formally organized programmes.

While a community health worker may be responsible for (and to) several hundred people, or several thousand people, in the community, a health centre may serve several communities and a population of many thousands. The health centre team should always remember that its responsibilities go beyond providing skilled technical services, supervision, and continuing education and include the promotion of intersectoral coordination and the mobilization of communities for health and social development.

Staffing patterns at the intermediate-level health centre vary from country to country. The category of health service personnel most consistently represented, and often in charge, is the nurse, who will usually have some post-basic training in community or public health nursing. Other personnel categories include the midwife, medical assistant, and health assistant, or, sometimes, sanitary inspector. In some countries health centres at this level are designated "community health centres", and there may be community health workers among the staff.

(3) *District level.* The management of the first three levels of the health system based on the primary health care approach, is the responsibility of the third or district level, where activities are planned, organized, supervised, monitored, and evaluated jointly with personnel from the intermediate level and, where practical, the community level. Services are available for referred cases whose needs are beyond the skills and competencies of the intermediate level, although, to be realistic, many people bypass the intermediate level and proceed directly to the district health centres or hospitals.

Developmental activities and intersectoral cooperation and coordination are as important at the district level as they are at the other levels. Health staff at this level would be expected to coordinate health components with other sectors to implement programmes with a broad developmental focus.

District health centres serve as first-line hospitals, and are usually staffed by a team of physicians, nurses, dentists, medical assistants, sanitarians, etc., depending on the resources of the country.

Physicians are invariably among the personnel at this level. In the past, the positions for physicians were perhaps more often vacant than filled, but increasingly, in many countries physicians are becoming available to fill these positions. Nurses are always represented at this level: district-nurse midwives, public health nurses, and, increasingly, nurse practitioners. Another category of personnel that is increasingly thought to be necessary, though only sporadically used, is the district-level health services manager.

(4) *Higher levels.* At the higher or more central levels of the health care system, more complex services (so called secondary and tertiary care) are provided to complement the services available at the periphery. The higher or more central the level, the more technically skilled, highly qualified, and better paid are the staff, and the more sophisticated and costly is the equipment. These higher levels make an important contribution to planning, management, policy formulation, implementation, monitoring, and evaluation of the overall health strategy (*21*). However, in doing so, they are dependent on the information and assessments which they obtain from the personnel at the periphery.

Senior health personnel at the higher levels of the system are, themselves, often involved in the medical care of patients who come directly to their facilities as well as those who are referred from the periphery. One potential problem at the higher levels is the bias of these personnel towards providing direct medical care of patients in their facilities rather than supporting the total health care system that is oriented to universal coverage of the entire population.

Higher levels of care should not be considered to be more important than other levels. Rather, each level has its own role, and all must be integrated functionally in order to form an effective system. In fact, the peripheral levels of the system may be considered to be the most important; the higher levels must be geared particularly to support the first level, which is the main point of interaction with the population, and the intermediate and district levels which support the first level.

While the roles of health personnel can be logically described, many factors can decrease their effectiveness, particularly at the periphery, such as lack of clear lines of authority and delegation of responsibility, lack of training for team work, frequent turnover of personnel, etc. It is therefore, not surprising that health workers at the periphery often feel isolated, both professionally and socially.

4.2.4 *Redefining the roles of health professionals in health teams*

The pursuit of health for all through the primary health care approach will require the redefinition of the roles and functions of all categories of health personnel including those of physicians, nurses, and other health professionals, such as dentists, pharmacists, sanitary engineers, etc., who will have to accept membership in, and if justified, leadership responsibility for, the health team. The team leaders will have to provide technical support and guidance to health-team personnel, referral services and consultation, supervision and continuing education, and overall management of the primary health care teams.

With regard to physicians, they will be expected to provide not only highly skilled and specialized care at secondary and tertiary levels, but also to function in relation to the first contact level. In some settings, physicians will provide care as members of a primary health care team; in others, they will be in more supervisory roles, serving as team leaders where this is needed and justified (*22*). The discharge of these leadership responsibilities will demand a real understanding of, and sensitivity to, the main social target of health for all and the primary health care approach, willingness to respond to the social needs and demands of communities, fresh recognition of the multifactorial nature of disease processes, and a change towards "care" rather than the traditional orientation towards "cure".

If the pattern of earlier historical periods is retained, with the emphasis on doctors, the very meaning of the health team will be distorted, thus seriously jeopardizing the successful application of the primary health care approach. At its best, a health team is a group of persons who share a common health goal and common objectives, determined by community needs, towards the achievement of which each member of the team contributes, in a coordinated manner, in accordance with his/her competence and skills, and respecting the functions of others. The redefinition of the roles and functions of doctors will require reorientation and retraining of those already in service to prepare them for their changed responsibilities; for in the future the education of doctors will need to be changed, with far greater emphasis being placed on attitudes and relevance.

Nurses are numerically the largest group among health staff and they provide a multiplicity of services in a wide range of settings.

Their numbers and versatility, coupled with their dedication to duty often at relatively low levels of pay and under difficult circumstances, have earned many of them popular respect and trust. However, in the context of health for all, their roles also must be re-examined. Nurses will be expected to teach primary health care workers and traditional practitioners many of the functions traditionally performed by nurses themselves, guiding and supporting these new personnel (and community leaders) in health promotion, case-finding, disease prevention, individual and family care, community programme development, health education, and curative and related functions. A further, more demanding, responsibility for nursing and midwifery personnel is the fulfilment of those roles that are usually ascribed to general medical practitioners, including the examination of the sick and disabled, determining the source of health problems, and treating acute conditions as well as major preventable diseases in the community.

Nurses should be able to assume a number of leadership functions in the health team, and need to share these responsibilities with the physician, environmental health worker, or other health professional, as the occasion demands. They should also collaborate with those working in other sectors of development. The challenge is how to harness the potentially powerful force of the nursing group not simply for ongoing activities but for change within the health system.

What is true for physicians and nurses, applies equally to other health professionals, such as dentists, pharmacists, sanitary engineers, and nutritionists. If the health-team concept is to become a reality, each member of the health team must contribute to and benefit from its functioning. Instead of being viewed as performing specialized tasks within the narrow confines of their past professional training, health professionals must assume new leadership tasks, including the supervision and provision of continuing education to other members of the team, as well as relating to them in the spirit of equality in the achievement of a common objective.

These new roles for health professionals will not be easy to put into practice. There is inherent resistance to change among the health professionals and their teachers. However, in spite of criticism of their social attitudes, health professionals form an important group in the health system and need to participate constructively and supportively in efforts to pursue health for all.

4.3 Production of health manpower

Planning the health personnel requirements for health for all, including the redefinition and description of health personnel roles, provides the foundation for, and interacts with, the education and training needed to provide health personnel with the requisite competencies, skills, and attitudes to implement the primary health care approach (see Fig. 2). As the Global Strategy (*4*) states "Ministries of Health, in collaboration with other ministries and educational bodies concerned, will take steps at the highest government level to introduce the policy of educating and training health manpower to perform functions that are highly relevant to the country's priority health problems. In fulfilment of this policy they will review the functions of health personnel throughout the health system, and will take the necessary measures to ensure their reorientation as necessary". Health manpower planning and policy formulation are the first steps towards reorienting the education and training of health manpower as required by national strategies for health for all.

4.3.1 *Changes needed in education*

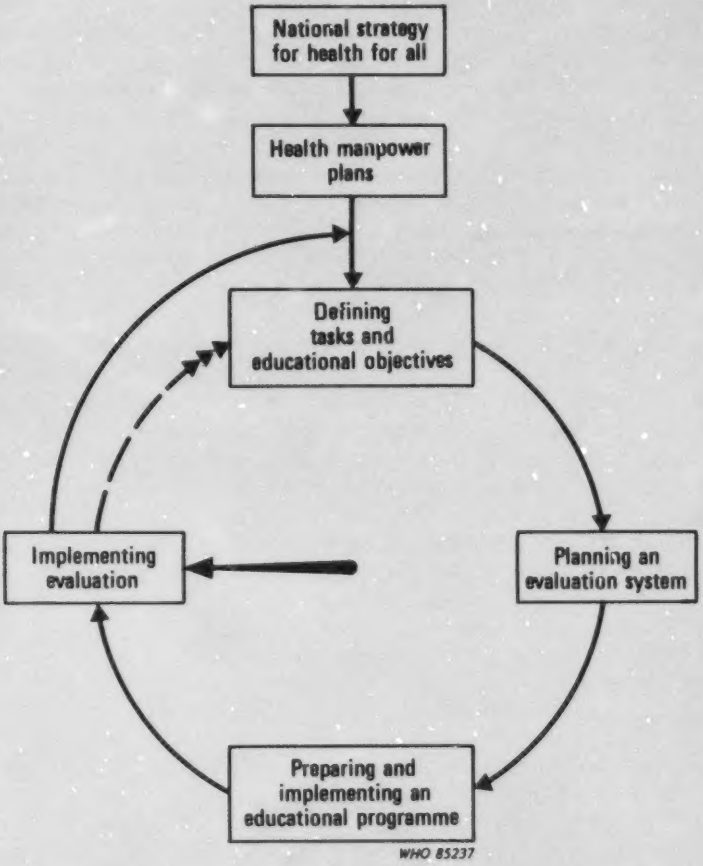
In order to provide both potential and actual health personnel with the opportunity to develop appropriate competencies and social motivation, extensive changes are needed in present education and training programmes. Existing health workers will need to be reoriented and trained, and the establishment of new categories of health worker will require the development and implementation of new educational programmes.

Such extensive undertakings in educational and training programmes can be implemented through changes in existing manpower training centres as well as through the establishment of new institutions and community settings for the training of health workers. These developments will require, in turn, that the teachers of health sciences be trained in the planning, implementation, and evaluation of educational programmes oriented towards community needs.

In attempting to make training relevant to community needs, teachers and educational planners must rely on health manpower planning, which specifies staffing requirements in terms of functions, constituent activities, component tasks, and qualitative planning. Health sciences teachers and educational planners must learn to

collaborate with health planners, health staff, community representatives, and students, in defining tasks and translating them into educational objectives. This is the link between planning and production, the key to relevance, and a rational first step in the educational process (Fig. 4) (*23*). However, only a minority of medical, nursing, and other health sciences schools have developed

Fig. 4. The educational spiral[a]


National strategy for health for all
Health manpower plans
Defining tasks and educational objectives
Planning an evaluation system
Preparing and implementing an educational programme
Implementing evaluation
WHO 85237

[a] Reproduced from J.J. Guilbert (*23*).

explicit objectives for their training programmes. There is little doubt that the definition of precise learning objectives, based on competence profiles, for all health worker training programmes relevant to the needs of the national strategy for health for all, is the first essential change needed in health sciences education.

Since there is considerable uncertainty as to how roles may evolve in the future, the most universally valid educational objectives for health workers may be the ability to solve unforeseen problems and to be responsible for their own lifelong learning. Inherent in the definition of specific learning objectives is the identification of those communication, practical and intellectual skills, knowledge, and attitudes essential for optimum task performance and social service. These should serve as the basis for curriculum development and for the selection of those methods and learning experiences and settings that would best help students achieve their objectives.

Unfortunately, the curricula of most medical and other health sciences schools are still overburdend with the pursuit of knowledge that is irrelevant to the priority tasks that must be performed to meet the health problems of communities. Little attention is paid to learning problem-solving skills. In medical schools, for instance, the teaching of the diagnostic and curative skills needed for acutely and chronically ill patients, is emphasized, and most of the learning takes place in tertiary-level hospitals. Conversely, the skills required for assessing community problems and developing primary health care programmes, including health promotion and disease prevention are underemphasized; and although there may be occasional acknowledgement of community concerns, through courses in community medicine and visits to communities, the major focus is still on afflicted individuals and often on specific diseases. Furthermore, there is an almost total disregard for what educationalists call the "affective domain"—the inculcation and continuous reinforcement of attitudes conducive to effective interpersonal communications and relationships. Similar criticisms can be directed at the education of nurses and other health professionals.

There appears to be, at present, at least among the leadership of the different professions, growing concern about educational planning, community-oriented curricula, and problem-solving skills. Such concerns have led to the formation of the international network of community-oriented education institutions for health sciences (*24*). A second group of essential changes in education for almost all countries and for all health worker-training programmes,

involves the development of problem- and community-based curricula. In addition, appropriate teaching and learning strategies will need to be developed particularly to prepare for work in teams; these strategies will have to be related to learning objectives that are based on future tasks and necessary competencies, and also geared to the independent and self-directed learning activities of students.

Yet a third change in health sciences education is required—namely the widespread adoption of audiovisual, self-instructional, and simulation techniques, that have already proved to be of considerable value in facilitating learning. The challenge to developing countries will be to adapt these techniques to their own requirements, especially to the needs of learners in rural areas, many of whom are semi-literate or illiterate, and will not be learning in institutions. Adaptation will involve developing, testing, and applying inexpensive alternatives, to enable countries with very scarce resources to cope with the large numbers of health workers who need to be trained, despite the acute shortage of teachers.

The reorientation of health personnel training must concentrate on the development of effective educational programmes that are community-oriented and community-based, multiprofessional in character (team-oriented), student centred, competency-based, and problem-based (integrated on a problem basis), with their foundations firmly anchored in science (see section 6, recommendation 7).

The Expert Committee recorded a number of views about the training (production) of health manpower, and particularly about the roles of universities:

(1) At present, the different categories of health personnel are trained in separate compartments—the walls need to come down.

(2) Schools of medicine and other health sciences have not fully realized, or adapted to, a series of changes that have recently been taking place in many parts of the world:

- the epidemiological shifts in patterns of disease in both developing and developed countries that call for new competencies in their graduates;
- demographic changes that have led to new emphases such as on community paediatrics and care of the elderly;
- the issues of equity and utility in the development of health systems;

—the need to have competencies in relation to the organization and management of health teams, and of health systems in general;
—the paradoxical shift in an increasing number of countries from a situation of too few doctors towards one of too many doctors for the positions available;
—the requirement to understand the strength of community expectations, the need for public education in health, and the importance of community involvement.

(3) Even though universities are often unaware of the health realities of their settings, they must fulfil their responsibilities to be involved in, and spearhead, social change because they have the required:

—critical approach to the generation of knowledge;
—ability to ensure high quality training by using various disciplines to solve complex problems;
—the social commitment inherent in a health sciences school, i.e., "all who teach—serve; all who serve—teach".

(4) Some universities are searching for opportunities to express their social meaning. Health for all is that opportunity.

(5) The objective of health personnel education is to improve health systems and through them the health status of the population as an integral element of the quality of life. Society has problems, the university has disciplines, the government has commitment, and the three must be brought together. Although it is not an easy task, it is feasible.

4.3.2 *Selection criteria*

The use of new approaches to the selection of students for various educational and training programmes for health personnel often evokes a curious resistance or at least ambivalence.

Although there is considerable variation in the criteria used to select community health workers, there is general consensus regarding the principles involved. In general, middle-aged men and women who are at least functionally literate (although it may be necessary to consider illiterate persons as well), and have previously shown a commitment to community service, appear to be the most suitable candidates for training. Preference for one sex or the other is of course determined by the culture of each society, often related

to the functions to which the worker is assigned. The consensus is clear and unmistakable: "the criteria for selection should be determined jointly by the community, health authorities and the training institution or group ... where the community is involved in the selection process, those selected often turn out to be acknowledged opinion leaders in the community ..." (*19*).

For intermediate-level health personnel, the selection criteria often combine academic ability and some previously demonstrated inclination for service to the community. However, in training schools for health professionals, the situation is different. Few medical schools or other health professional training institutions concern themselves about the social usefulness of their selection policies or show any desire to consider alternatives. A high standard of general education and a favourable academic record are the principal criteria for admission; this orientation has not been diminished by the lack of evidence that such academic qualifications are good predictors of performance as a doctor or a health professional.

In fact, the academic orientation of most selection policies results in an uneven distribution of health professionals since there is a strong correlation between those who perform well in examinations and urban middle- and upper-income social classes, who tend to show limited interest in working in rural areas.

The University of the Philippines has taken an imaginative step in offering a "ladder" curriculum in its Institute of Health Sciences at Tacloban. A trainee entering at the bottom of the ladder undertakes a rural health worker's course involving 3 months of training. The health worker then returns to his or her community, and after a satisfactory period of service and provided the community continues to support him/her, the health worker has the opportunity to return to the institute for further training, as a community nurse. This pattern can be repeated until the individual has obtained the degree of Doctor of Medicine (*25*).

An analysis of various selection methods shows that the emphasis on academic ability is derived from the assumption that students who have done well in previous learning will do well in a training course and that such measures of ability are "fair" to all students. If selection methods are to be improved, the desired characteristics of health workers should be well defined, which again will require effective health manpower planning. The existing systems of selection must then be critically analysed and new approaches

designed with the emphasis on non-academic, personal qualities (*26*).

There is uncertainty about the extent to which experimentation with selection procedures is feasible in various countries. There may be opposition to emphasizing non-academic, personal qualities, particularly for professional training. Nonetheless, changes in this direction are taking place in some countries, and their experience might motivate others to adopt a similar course (see section 6, recommendation 7).

4.3.3 *Evaluation of education and training programmes*

Educational objectives, defined collectively as terminal competencies, should enable rational decisions to be taken about what constitutes an acceptable level of performance for students, graduates, and teachers alike. Evaluation should determine not only whether students and teachers have achieved their objectives, but also the quality of the entire teaching/learning process. It should determine whether the learners have achieved their objectives and if so, to what extent; whether the objectives are relevant to health service needs, and hence to present or foreseeable community health needs and demands; whether the curriculum and methods are relevant to the objectives; and whether the evaluation tools are relevant, valid, and objective (*27*). The results of this total evaluation process should be fed back into the planning and implementation process, thus closing the self-controlling cycle of the teaching/learning process.

Katz & Snow (*28*) have advocated that, in determining whether students have attained an acceptable level of performance, information should be collected in the field or simulated practice setting, using check-lists, rating-scales, observation schedules, and conventional examination techniques, where appropriate. On the basis of such data, a performance profile can be constructed that shows the pattern of performance across different aspects of the job. Such a systematic approach to evaluation linked to objectives is rarely undertaken. One can ask, whether the time-honoured examination system still serves a really useful purpose, or whether it should be replaced in medical schools and schools for other health personnel by a system of evaluation that would give a valid measure of the ability of the learner to identify and solve the problems he encounters and to take decisions, a measure of his competence and

attitudes (*22*). In only a few schools is there any continuous evaluation of the entire teaching and learning process, or any attempt to question the relevance of programme objectives to actual community needs, and very few schools for health workers have prepared a formal statement of institutional objectives.

This does not mean that there are no difficulties associated with evaluation systems based on specific objectives, or that the search should not continue for even more effective evaluation tools to measure more precisely problem-solving and decision-making capabilities and psychosocial characteristics. Indeed, Katz & Snow have pointed out one of the pitfalls for the unwary: "Measurement of performance on specific task components cannot be related closely to total performance, because each of them reflects only a small portion of it. They cannot be summed up and presented as the equivalent of total performance, because it is not simply a sum, but rather a complex of interrelated and interdependent components" (*28*).

4.3.4 *Training for health teams*

Health manpower planning should provide information on the composition of health teams and on the complementarity of the tasks of the members. Educational objectives for individuals and health teams can prepare the way for the development of team-based educational programmes. Just as health manpower planning emphasizes planning for health teams, the complementary educational approach can emphasize team training for community-oriented health work. So far, the best approach to team training appears to be to unite student team members in practical work, each to approach relevant health problems from the particular viewpoint of his/her own profession.

Although the principles of team training may seem obvious, their translation into practice is often difficult. The selection procedures of various categories of trainee, their curricula, and the perceived hierarchy of health workers are factors that discourage team training. The compartmentalization of professions has to be broken down before team training can become a reality. This implies a reorientation not only of students, but also of teachers and existing health workers so that each health worker is prepared to contribute as a team member, to the objective of improving the health status of the population.

4.3.5 *Training of teachers*

The changes necessary for the education and training of health workers have critical implications for the training of their teachers. Perhaps the most fundamental aspect of teacher training is that they understand their role as teachers, i.e., to promote the process of learning by guiding and assisting students to achieve their learning objectives (*29*).

Another critical change in attitude would be for teachers to recognize that the role of their training institutions is to prepare personnel for health systems that must meet the health and social needs of their communities as required by health for all. This basic understanding of their crucial professional role and social purpose can provide them with the motivation to apply the knowledge, skills, and attitudes they acquire during their own training (*27*).

As promoters of learning, teachers need more than a sound grasp of their own health disciplines; they need to know about the national strategy for health for all, educational principles, processes, and practices, and to be able to plan, implement, and evaluate relevant educational programmes. They need to know about the needs, demands, and aspirations of communities, and about the intersectoral activities that are most likely to contribute to development. They need to witness at first-hand the efficacy of a community participating in the planning and implementation of health promotional activities, and to be aware of the pitfalls, problems, and difficulties that might arise (*30*). How can they acquire this knowledge, and the communication, organizational, and interpersonal skills, unless training programmes for teachers are based on a community-oriented team approach, with appropriately planned community-based field activities?

It has only recently been accepted, but even now not universally, that training in educational principles and processes and in teaching and learning methodology is essential for the teachers of health personnel. Hence there is an enormous shortage of teachers who are so trained in the world's health sciences schools, but this generally arouses neither comment nor anxiety. This situation should be changed, so that these essential changes in education can be implemented and accepted; how else can one realistically expect, as the Alma-Ata report demands, that health workers be socially and technically trained and motivated to serve the community?

4.3.6 *Continuing education*

Health sciences education should not be viewed as a single event. Initial learning experiences should be improved continuously, and higher levels of competence achieved. Improved work performance, enhanced competencies, more appropriate work attitudes, and greater productivity should not be left to chance, but pursued through continuing education that seeks to enhance the performance of health workers through a system of planned educational programmes relevant to service needs.

The importance of continuing education has been long recognized, but, in general, most programmes are still planned and carried out in a piecemeal way, thereby making them ineffective and even inappropriate. They are either irrelevant to national health needs or do not rectify the deficiencies in the daily performance of the workers, or fill the gaps of basic education.[1]

Thus, a national system of continuing education is required which ensures that all categories of health personnel are given the opportunity to continue learning throughout their careers. Continuing education should be organized as a system because it requires a comprehensive approach, and it involves a diversity of issues and decisions in different sectors and a great deal of support, expertise, and resources that can seldom be provided by a single institution in any country. A continuing education system includes the people, policies, plans, functions, and facilities of several institutions and programmes that have agreed to work together rather than in isolation. The notion of a system, as a coordinating mechanism, should be flexible enough to assume the type of configuration that would best respond to the size and complexity of the programme(s), the number and type of participating institutions, and the administrative arrangements for decision-making, resource allocation, management, and control.

Modules or units of continuing education should be sequential and progressive, and specific learning objectives should be derived from the competencies required for more effective and efficient performance. Here, there are even greater opportunities than with basic-level programmes to pursue multiprofessional or team- and problem-oriented approaches to education.

[1] *Continuing the education of health workers: guiding principles for the development of a system.* 1982 (unpublished WHO document).

Continuing education can also promote the adaptation of health worker performance to improvements in the health services and to changes in the health and socioeconomic status of society. Priority needs and demands of communities for specialized care and service would also indicate changes and additions in the continuing educational system, including post-basic specialization (*31*). Such opportunities should not be restricted to doctors and nurses, but should include all the categories of health workers, including front-line workers at the community level. For example, community health workers have been successfully trained to undertake new tasks, such as recognizing disabilities and promoting the integration of the disabled within families and communities. Indeed, continuing education for community health workers is crucially important, especially because of their initial low level of general education and the relatively short duration of their basic training programme.

Since the purpose of a system of continuing education is enhanced job performance in the health services, it must be associated with other factors that contribute to high levels of staff morale and productivity. Continuing education is, therefore, not only a part of the training component of health manpower development, but of health manpower management as well. This is well illustrated in the case of the community health workers of China (the barefoot doctors), whose supervisors in commune hospitals are responsible for their guidance and continuing development within the system of continuing education.

Opportunities for advancement or promotion are consistently found to be very important in studies on staff morale and productivity. It is apparent that unless the continuing education system is linked to a career structure that allows for mobility within the health services, it is unlikely that it will contribute to enhanced job performance. It is also unlikely that health workers will take advantage of the opportunities for lifelong learning provided by the system (see section 6, recommendation 8).

Current continuing education schemes are usually specific to professions and related training institutions. The first task, therefore, in organizing a country-wide continuing education system may be to bring the various interests together (planners, producers, and managers of manpower) to develop integrated plans for the continuing education of different categories of health personnel.

Such a systematic approach often requires a new attitude towards the nature and purpose of continuing education on the part of both those who provide it and those who participate in it. It also demands full cooperation between those providing education for the health professions and those providing the health services.

4.4 Management of health manpower

Just as health manpower development should be seen as an integral part of health systems development, the management of health manpower should be seen as being closely related to the wider process of managing a nation's health systems. WHO has described a managerial process for national health development, and this is considered as "... much more than a methodology: it is a systematic, continuous process of national planning and programming. It includes policy formulation and the definition of priorities. It involves the preparation of programmes to give effect to these priorities, the preferential allocation of budgets to them, and the integration of the different programmes within the overall health system. It also deals with the implementation of strategies and plans of action, and the programmes and services and institutions for delivering them, as well as with their monitoring and evaluation with a view to modifying existing plans or preparing new ones as required, as part of a continuous cycle. Finally, it outlines the information support required throughout" (*14*).

The various components of this managerial process have their analogues in health manpower management, which also involves a systematic and logical sequence of steps. Health manpower policies and plans have been considered earlier in this report.

The management of health personnel should ensure that those trained to respond to perceived needs are properly used (managed) to maximum effect in the health system. Thus, in the context of a managerial process for national health development, health manpower management refers more to the implementation, monitoring, and evaluation of health manpower development strategies. The distinction is, of course, arbitrary since all the elements of the health manpower development process interact with one another, and management thus influences and is influenced by the planning and training of health personnel. On balance, however, the management subsystem of the health manpower development

process does not appear to assume an importance equal to the production and planning aspects. This "imbalance" has been reflected in national progress in health manpower development where there is evidence of considerable activity in the formulation of health manpower policies and plans, and in the development and strengthening of adequate and relevant training programmes, but where less attention has been paid to the management component of health manpower development.

This relative neglect is understandable; the number of health personnel available and the relevance of their skills are usually the most immediate problems facing countries in their efforts to achieve health for all. Yet it is becoming increasingly apparent that the most clearly-defined, appropriate, and comprehensive manpower policies and plans will have little impact without an adequate management infrastructure to implement them. In other words, not only must the philosophy of health for all be firmly laid down in policy and plans, but the tools (management techniques and systems) and the infrastructure (capacity of the country via its own institutions and networks) must be available to change policy into action at all levels of the health service.

Without proper management of health manpower, expensively trained health personnel are wasted. There is little value in training health personnel at great expense if, when their training is completed, they either leave the country, are poorly deployed, receive inadequate logistic and service support, or, as a consequence of the lack of a system of continuing education or career development, they quickly lose their commitment and motivation (see section 6, recommendation 9).

A health manpower management system consists of a set of administrative structures, procedures, and processes which can be termed the elements of such a system. These elements, both individually and through their relationship with one another, provide mechanisms for the employment, retention, support, and development of health personnel.

Some of the key elements of health manpower management, which can be classified according to the four objectives, are shown in Table 5.

The Expert Committee, however, did not discuss each of these elements separately; instead, it considered some of the prominent themes common to all of them. It welcomed the planned convening of an Expert Committee on health manpower management systems

Table 5. Some of the key elements of health manpower management

Main objective	Elements
Employing	Job descriptions Establishment controls Recruitment procedures Personnel records and data base Induction Distribution of personnel Utilization of support staff
Retaining	Career structures Promotion procedures Living and working conditions Pay and incentives
Supporting	Supervision Communications and consultation Collective representation Continuing education (updating of skills) Logistic support
Developing	Performance appraisal Continuing education (new skills)

that should consider these elements and their interactions in greater detail.[1]

4.4.1 *Management infrastructure*

Effective and efficient management of a national health system based on the primary health care approach, including dealing effectively with the manpower issues, presents special problems particularly because of widely dispersed health services seeking to provide total coverage. To develop an infrastructure responsible and adaptable to the health needs and demands of the community, decision-making must be decentralized and authority vested in those close to the communities. Close agreement is not often found between health needs and resource allocation, but it does seem more likely to occur if decision-making is decentralized (*32*). Decentralization does not mean a diminution of the role and control of managers at the central level. However, it does mean that managers at each level can contribute to the system as a whole (see section 6, recommendation 4).

[1] WHO. *Proposed programme budget for the financial period 1984–1985*. 1982 (unpublished WHO document, PB84/85).

Thus at the *national level*, a national health manpower management system should be established within the framework of the overall managerial process for national health development. In keeping with the decentralized approach, the underlying principle of the manpower management system would be to establish an interactive relationship among the various levels of management from the centre to the periphery. The development of an integrated and effective health manpower management system will require that the following are supported:

- the strengthening of the manpower management infrastructure of the country, including the ministry of health;
- the improvement of the personnel administration systems, including recruitment, transfers, career development, and continuing education;
- the development and strengthening of national capabilities for conducting training programmes in management and supervision appropriate to different levels of the health system and relevant to the national situation; this training both in basic education and continuing education, including on-the-job training, would be based on precise definitions of the management and supervisory functions at each level, and be problem and task-oriented;
- health manpower research, including policy analysis, task analysis, role of incentives, and techniques of developing performance profiles.

Thus health manpower management is considered in a broader framework than the conventionally understood functions of personnel administration. Management functions not directly related to the implementation of national policy and plans are also exercised by others at various levels of the health system. These *middle-level managers* perform vital roles (*33*): they are involved in the translation of policy into everyday operations that may well determine the success or failure of a major policy, as well as with planning, programming, budgeting, managing, and evaluating programmes at their level—usually the provincial level.

The weakest links in the health management infrastructure are often at the *district levels*. This level is usually poorly staffed, with insufficient back-up, inadequate delegated authority, and unable to provide the necessary supervision and support to more peripheral staff in the field. Yet, effective planning and administration at the

district level is especially important, since this may be the lowest level of the health system that is in communication with central government, as well as being the highest level in direct contact with communities. Being closer to the periphery, the district centre can be an active focus for community participation and intersectoral cooperation (*34*).

At the *peripheral level*, the problems are similar to those at the district level but there is also an increased sense of isolation on the part of the health workers. Constant interaction among workers at this level as well as with higher levels should be facilitated. On-the-job training and practical problem-solving are crucial if management capacity is to be self-sustaining and if the management infrastructure is to reduce the sense of distance from those formulating policies.

4.4.2 *Health manpower information system*

Information support is vital for managerial effectiveness, yet it is an acknowledged weakness of most health manpower management systems. The management information system for health manpower should provide information relating to each component of the health manpower development process, including:

- *manpower planning*: manpower requirements, availability, job profiles, attrition, and information derived from research on the assessment of community needs and resources;
- *manpower production*: staffing needs of training institutions, production capacity, pools of potential trainees, attrition from training programmes, availability of continuing education programmes, and research data on effectiveness of training;
- *manpower management*: traditional personnel records, including information on appointments, transfers, leave, promotions, and retirement; information to enhance job motivation, including trends in staff deployment, performance, utilization, staff expectations, extent and content of supervisory visits, and job satisfaction; monitoring for staff effectiveness, including data on staff productivity, quality of work, and community attitudes toward staff, including satisfaction with staff performance.

There should also be mechanisms to feed back the data obtained by monitoring health personnel in the planning, production, and management subsystems so that adjustments can be made in those

subsystems according to changing realities. Monitoring is the regular follow-up of an activity during its implementation to ensure that operations are proceeding as planned and are on schedule. In the case of health manpower this means checking (*i*) whether the health worker is being properly used doing the tasks he was trained for; (*ii*) whether he is ready and able to cope with these tasks; (*iii*) in what field his competence needs updating; (*iv*) his job satisfaction and his contribution to consumer satisfaction; (*v*) his living and working conditions; and (*vi*) quality control.

It will be useful to examine and evaluate the types of personnel records being maintained in different countries. Each country has to decide whether to introduce an integrated and centralized health manpower information system or to coordinate the health manpower information that is being kept by different subsystems. Efforts to launch an integrated health manpower information system, as part of a national health information system, have often failed precisely because information is jealously guarded by potential users. In order to break down the barriers, it may be advisable to approach the problem cautiously, starting with coordination so that none of the users feel left out (see section 6, recommendation 10).

4.4.3 *Job descriptions, career structures, and performance of health workers*

Health manpower can more effectively support health systems development when the roles and responsibilities of each team member are carefully defined in job descriptions, thereby linking manpower planning with management. Such job descriptions should include at least the following:

- objectives of the post;
- requisite qualifications, skills, knowledge, experience;
- grade and salary attached to the post, including a scale for promotions;
- detailed list of tasks and responsibilities;
- names and designations of first- and second-level supervisors;
- names and designations of first- and second-level subordinates;
- criteria to be used in the evaluation of job performance;
- authority of the incumbent including control of resources;
- career prospects.

Specification of supervisory channels is of special importance, so that every member of the health team may receive constant technical support, guidance, and encouragement.

Career grading structures for each cadre should provide workers with opportunities for lateral and vertical movement linked to a system of continuing education. Salary structures should reflect both the equivalence of responsibilities between cadres and the different responsibilities within cadres. The "ladder" curriculum, already partially in operation at the Institute of Health Sciences at Tacloban, the Philippines, and elsewhere (also described in section 4.3.2) is an example of a progressive career structure: it provides for the initial training of community health workers who, through alternate periods of continuing education and community service, can become first a community health nurse and eventually a doctor (*25*).

In all countries provision should be made for the systematic evaluation of the performance of health workers, using criteria derived from job descriptions. The results of such performance appraisals not only support decisions on career development, continuing education, promotion, and other social and financial incentives, but should also be fed back to the education and training institutions and to those responsible for planning. In this way, the link between health systems and manpower development is maintained, and any necessary adjustments to both curricula and manpower plans can be made (*28*).

A continuous challenge to management is to devise ways of stimulating health workers to strive for the highest possible levels of performance. Simple, appropriately adapted personnel administration systems that include clear and unambiguous procedures and guidelines for appointment, transfer, leaves, promotions, social and financial incentives, and retirement, can contribute to that effort, but in many countries they still remain inadequate.

The living and working conditions of many health workers are often totally inadequate, particularly in the rural areas where the greatest increase in the number of workers employed needs to occur in the development of health care. There are often problems in persuading people to work in rural areas because of the obvious social attractions of urban life, but these difficulties may be exacerbated by a lack of rural accomodation or of adequate schools for the children of health workers. There are often other difficulties relating to the working conditions within the health service facilities, such as a lack of running-water, no building or equipment

maintenance, and irregular deliveries of drugs and supplies. All of these difficulties increase the sense of isolation, both physical and psychological, of rural health workers, and can encourage the idea that they are the "second-class citizens" of the health services with the result that motivation is lacking and there are high resignation rates. Many of these conditions, if they exist on a country-wide basis, can result in the migration of health personnel to wealthier countries (*35*).

The salaries and other incentives offered to health workers relative to the pay and conditions available in other sectors, especially the private sector, have a significant influence on the recruitment and retention of health workers. It may be difficult for ministries of health to be competitive, in terms of salary, with private industry. However, competition between different ministries for personnel can be reduced if levels of pay are standardized throughout government services. This requires action at an intersectoral level; sometimes through civil service commissions or equivalent bodies. In spite of difficulties, ministries of health should be aware of the problems and be able to decide on appropriate incentives, for example to encourage rural deployment.

Not all incentives are necessarily financial. Job security is important for employees particularly in many developing countries where job opportunities are limited. However, it can also be a drawback if job security is not related to performance. Health workers in government employment often enjoy good job security, but it is doubtful whether this improves their job satisfaction or motivation. Similarly, transfer policies, unless they are clearly seen to be serving the organization's goals of encouraging career mobility, can produce abnormal staff behaviour because of dissatisfaction with those policies. Work-load can also be a source of dissatisfaction if it is too heavy, but also if it is too light. Seeking greater community involvement in health care, or activity planning, may help solve some of the problems of work-load.

Lack of resources are often given as the reason for the poor living and working conditions provided for health workers in a majority of countries. This is clearly a major constraint but, on the other hand, not only are many incentives non-financial but also investment in adequate living accomodation or financial incentives for rural service, for example, may be more economically sound in the long term than the training and recruiting of new health workers to replace those who have resigned through dissatisfaction.

4.4.4 *Human relations, communication skills, and supervision*

Management systems will not reach their potential unless there are harmonious working relationships and effective communication among staff, as well as between staff and communities. To achieve this harmony health services managers will need to develop: participatory management skills; the ability to carry out an objective evaluation of personnel and to identify needs for continuing education (i.e., gaps in performance), career development, and promotion; and the ability to identify community problems systematically and to redeploy personnel in order to organize and motivate staff to meet the health needs of communities.

The manager needs to develop a better understanding of, and insight into, social realities and organizational dynamics. This development will be facilitated by understanding the methods of psychological and social analysis of people, of their needs and personalities, attitudes, values, and perceptions. Similarly, the manager needs to be familiar with the basic processes of communication among people and in organizational units, and with decision-making, leadership styles, and how groups may become creative. Insight is also needed into the processes used to intervene in organizations to increase their effectiveness through work motivation, managing conflicts, and initiating change.

While supervision is critical to performance, it is often deficient. Although it is a qualitative concept, supervision is measurable to some extent: one indicator is the percentage of work-time a supervisor spends on that function; another is the number of times a supervisor and worker come into contact during a certain period of time. The quality of supervision, however, is largely related to its effectiveness. Many supervisors are more concerned with checking records than with helping and advising the workers. A health worker who feels the supervisor treats him only as an instrument of production is likely to become a poor producer. A good supervisory style achieves a balance between concern for work output and the interest and welfare of the workers.

The development of new categories of health workers, such as community health workers, trained for a relatively short period to serve at the periphery, highlights the need for supervision of such personnel. If community health workers are to perform well, they need encouragement, technical guidance, and effective continuing education. The technical supervision provided by the health system

should be balanced by social and administrative supervision by the community. Adequate stocks of drugs and other essential supplies must be continuously available for use by the community health worker and the entire primary health care team if credibility in the community is to be maintained.

The management of the changes necessary to achieve health systems based on the principles of health for all, will often be the task of a new group of health workers—the health generalists—that is, "people who can generate schemes for health development, and plan, programme, budget, implement, monitor, and evaluate them; who can bring together to these ends the specialized knowledge of all the other disciplines involved in the health, political, social and economic sciences; and who can marshal, master, and summarize the information required for all these activities" (*4*). Owing to their scarcity, special attention must be given to their training in schools of health sciences, management, and public administration.

Every country has health manpower and, consequently, a health manpower management system, although often it is part of a colonial or historical legacy. It may be necessary to redesign the existing system completely in many countries so that the health system can meet the needs and demands of the people. However, it may be counterproductive to put into effect simultaneously all the desirable changes; what is needed is a broad vision of the requirements using a new structural design appropriate to the conditions of the country and in this way to facilitate the adoption of selective actions and a planned incremental change to improve management (see section 6, recommendation 9).

4.5 General issues in health manpower development

Consideration of the health manpower development process to meet the needs of health for all involves different themes. First, there are the essential interactions between its components and the health needs of the society on which are based the relevance of the health manpower development process to the goal of health for all. Secondly, there are the three components of the health manpower development process: planning, production, and management. Finally, there are the issues that include all three components as well as the interactions among them. The Expert Committee considered some of these issues that are vital for the rational development of

health manpower to serve the requirements of a health system based on the primary health care approach.

4.5.1 *Financing health manpower development*

Health manpower is perhaps the largest single item in the health care budget of a country. Personnel costs can account for 60–75% of the total health system expenditure and generally these costs are concentrated in secondary and tertiary care. The development of manpower to serve the needs of a health system based on the primary health care approach presents a formidable problem if existing manpower and other resources cannot be reallocated from existing secondary or tertiary levels to the primary care level. Both financial constraints and historical patterns of budgeting can make such redeployment extremely difficult, however clear the cost-benefit considerations, and alternative strategies need to be developed.

The financing of health manpower development cannot be separated from the financing of the entire health system. Incremental increases in manpower and reallocation to other levels require careful budgetary analysis. Health system costs can quickly get out of control if health manpower increases are permitted without a rigorous examination of the use—and effectiveness—of the personnel in accomplishing system objectives both current and projected. Since there is a time-lag, often of several years, between the investment made in the training of new manpower and its deployment in a health system, the planning process must take into account the potential benefit-effectiveness considerations of the future use of such manpower, and budget for the costs, especially the recurrent costs of employing and training them.

Another problem of long-term planning for health manpower, as mentioned earlier, is to prevent trained manpower from being enticed into non-public sectors, e.g., the private health care system, especially if the training costs of such manpower is met by the public sector. This loss of manpower to the private sector happens routinely, usually because the financial rewards are greater, especially at the higher professional levels. In this way, the government loses the investment already made in their training of manpower, the loss being disproportionately higher as the level of specialization of professional training increases. Consideration needs to be given to the costs of incentives for retaining manpower,

on the one hand, and, on the other, to ways of recovering the investment made in training, for example through tax mechanisms.

Rapidly escalating costs of health care are affecting all countries: the absolute increases are greater in the developed countries, but the relative burdens are greater in the developing countries. Unfortunately, in none of these countries are the increases in expenditure matched by commensurate returns in better health.

The developing countries must find their own ways of controlling costs, of sharing the burden between public and private sectors, and of involving communities in the cost-sharing. This is a daunting task since many of the initiatives, discussed earlier for health manpower development will require an increased budgetary outlay rather than a reduced one. This, in turn, calls for both efforts to increase the efficiency of health manpower and more convincing budgetary requests in order to obtain a greater proportion of the national budget for health.

4.5.2 *Monitoring and evaluation of the health manpower development process*

In the progression towards health for all through the primary health care approach, it has been proposed (*36*) that all countries should systematically:

(*a*) monitor the progress that is being made in the implementation of all programmes, to ensure that operations are proceeding as planned, are on schedule, and are being delivered in an integrated way;

(*b*) evaluate the relevance, adequacy, effectiveness, and the overall impact of policies and programmes.

Within this wider context, countries need to develop effective systems for monitoring the use of health workers. It is only through such systems that information can be made available for the periodic readjustment of health manpower plans and education processes; and only in this way can both the number and relevance of health manpower to the health needs and demands of the population be assured.

The three main output indicators for such an evaluation could be, for example: (i) extension of health care coverage to entire populations; (ii) improvement in the quality of such coverage; (iii)

community participation and satisfaction. Each country would need to select indicators and targets appropriate to its own national situation and relevant to the national strategy for health for all, as well as to decide on the realistic time intervals for their application (*37*).

Evaluation should be viewed as a decision-oriented process, and it should be closely linked with decision-making, both at the operational and policy levels. The evaluation process is often as important as the conclusions drawn from it since it provides an opportunity to improve the understanding of programmes and activities, which could result in the introduction of more constructive approaches to implementation. Often, too, the very questions included in an evaluation procedure can provide points of reference for the development of new policies, strategies, and programmes.

Since evaluation and monitoring apply to the whole range of health manpower development programmes and will involve political considerations at all levels, such functions should perhaps be the task of a permanent health systems and manpower development mechanism. There have been attempts to evaluate national health manpower development programmes and set up evaluation centres. Attention should now be directed to developing health manpower development indicators specific to each country and to the question of how the health systems and manpower development mechanism can fulfil the function of monitoring progress and evaluating the effects of health manpower development programmes. Another important step is to establish a feedback mechanism, in all three subsystems of health manpower development, to ensure that the evaluation results are used in subsequent decision-making (see section 6, recommendation 10).

4.5.3 *Attitudes, values, and political commitment in relation to health for all and manpower development*

During the deliberations of the Expert Committee, the theme of attitudes and values frequently recurred.

In his opening address, Dr Mahler, the Director-General of WHO, said that, in thinking about health for all, we must think about health systems that reflect the values of the people. The theme reappeared under many subject headings, and some of those

comments should be recounted in order to illustrate the Expert Committee's strong views on this matter:

(1) The development of primary health care in relation to health for all requires value-judgements as regards technology. Community orientation of health care will necessitate a fundamental change in values. WHO needs to be clear about the reorientation of values that is required.

(2) It is a mistake to think that it is by chance that health sciences schools, and particularly medical schools, do not concentrate on training their students in people-oriented care. The direction they have taken is consistent with their predominant values.

(3) Value reorientation on the scale needed is very difficult, but possible. It is doubtful if there are any short-cuts. A new generation takes fifteen years and that is probably the time-scale involved.

(4) National ideological groups, such as religious and grass-roots organizations, appear to have a better chance of promoting the necessary radical reorientations of values in a country.

(5) Research and development linked to policy and management, particularly related to manpower development, must include within their scope social considerations and values.

(6) The dilemma of quality versus quantity of health care in the development of health systems is more than a value debate: it is a matter of human life and death, and the people, rather than the health professionals, should decide about quality.

(7) Attitudes will determine the success of the effort to invert the manpower pyramid, so that other levels support the community health worker and other peripheral workers.

(8) National political commitment to health for all and the equity principle can be very strong but the value orientation of health personnel toward these principles is very important.

(9) The presence of illegal practitioners results from the failures of high-technology medicine and is based on the attitudes of the public towards medical services.

(10) A study of the underutilization of services in one country (*38*) revealed public resentment towards the health personnel because of their condescending attitude. This is an example of how attitudes can profoundly affect both the provision and use of health services.

Values are inherent in societies and their communities and individuals, arising out of national tradition, embedded in family

structures, and enshrined in religious beliefs. They are powerful in shaping interests and commitments, support, or opposition. They are often difficult to shape, at least purposefully, and they are difficult to change. This is why the question of attitudes and values plays such an important role, and why the associated problems can be so intractable. On the other hand, it is also why attitudes and values that are supportive, as in health-related matters can be such great assets.

One characteristic of attitudes and values is that, while being of central importance to the development of the health sector, they are neither easily analysed by the usual methods and disciplines nor amenable to the usual techniques of capacity building and technology transfer. Clearly, courses on attitudes and values are not promising ways to develop them, though a learning environment can affect them. Attitudes are learnt from teachers, but not taught by them.

Whether or not attitudes and values are consciously taken into account in education and training, in research and development, and in planning and management, they are constantly being formed, undergoing change, influencing what is considered to be important to learn, to research, to monitor; they are at work in shaping the inclinations and motivations of health personnel and the public and cannot be ignored.

A crucial determinant of the overall functioning of the health manpower development process, as well as its integration with the development of the country's overall health system, is the degree of national commitment to public responsibility for health care. Fülöp & Roemer point out that where this commitment is strong, there seems to be a greater determination to overcome problems and to plan, produce, and use the health personnel that are ultimately required to meet health needs (*7*).

The problems of reorienting the existing health system towards a primary health care approach are formidable. Quite apart from the constraints of finance, shortage of manpower, and limitations of technology, there are the pervasive problems of resistance to change from within the health system, from the educational institutions serving it, and from the community itself. Any change involves benefits and drawbacks, and in this the development of a primary health care approach is no exception: a policy to increase the number of primary health care workers, for example, will affect many individuals and their careers, roles, and traditional authority,

as well as private and public institutions, other government ministries, politicians, and bureaucrats. A good example of resistance to change that has profound implications for primary health care policy has been the intractability of many medical and nursing educational institutions and professionals to change their orientation to one that is more supportive of primary health care and other primary health care workers. "Particular efforts must be made to ensure the support of these institutions and people who, if properly motivated, can have a powerful influence on policy makers and general public alike; if they are not mobilized, they can constitute a serious obstacle" (*4*) (see section 6, recommendation 13).

A permanent health systems and manpower development mechanism at the national level is critical if health manpower requirements for health for all are to be met. This mechanism can facilitate the participation of other sectors, and provide an integrative function within the health sector. Having access to the highest level of decision-makers, a health systems and manpower development mechanism can increase the likelihood of political support, of mobilization of public opinion, and of community involvement. In addition, it can ensure that the processes of planning, training, and management of manpower proceed as foreseen, that adjustments are made to targets and plans, and that the relevant parties participate throughout the health manpower development process. While this is an idealized perspective, a soundly established health systems and manpower development mechanism makes it reasonable to strive toward achieving such relationships.

Political commitment, or lack of it, can also be manifested in legislation. Many countries have legislation that restricts the practicing of some types of health care to a few limited categories of health professionals. For example, only doctors may be permitted to write out prescriptions for drugs for patients. On the other hand, laws often exist that are not applied strictly, for example, pharmacy assistants dispensing antibiotics without prescription. "Thus there might be a need for new legislation, or the revision (or enforcement) of existing legislation, to permit communities to plan, manage and control PHC and to allow various types of health workers to perform duties hitherto carried out exclusively by health professionals" (*5*) (see section 6, recommendations 3 and 13).

4.5.4 *Health manpower research*

There needs to be a close interdependency between the development of health manpower and the development of health systems, both of which should aim at meeting the needs of entire populations. Within these interactive and interdependent relationships there are many unresolved questions relating to health manpower development that call for health manpower research within the framework of health systems research. The main purpose of health manpower research is to improve decision-making in health manpower development, i.e., the planning, production, and management of health manpower.

Despite the logic behind the importance of research into the development of health manpower, and in turn of health systems, little health manpower research is being carried out. The following are among the many reasons for this:

- lack of definitive policy-making mechanisms for health manpower development, and for health manpower research, in many countries;
- lack of recognition and understanding of health manpower research as an authentic area of research (in contrast, for example, to biomedical research);
- lack of individual and institutional capacities for health manpower research;
- lack of effective organizational and institutional relationships between health manpower researchers and those responsible for planning, producing, and managing manpower, particularly involving the senior decision-makers.

Health manpower research, by its nature and purpose, is closely related to policy-making. When it is not effectively linked to the decision-making process in health systems and manpower development, its primary purpose is lost, and policy-makers are without an essential instrument to be used in formulating their judgements. It is necessary, therefore, to build a framework or mechanism within which health manpower research can function in support of, be supported by, and contribute to, policy-making.

The inherent characteristics of health manpower research—being multidisciplinary in content and style, involving planners, producers, and managers of manpower, and having an obligation to respond to the needs of communities and the demands of decision-makers,

especially policy-makers—require a framework that provides effective access to a variety of agents, institutions, and programmes as well as to the community itself.

At the national level, health manpower research necessarily involves a number of parties. They can be grouped into three centres or loci for action:

(1) The health decision network: these are the decision-makers in the ministry of health and at other levels as well as providers of services, who set policies on various aspects of manpower and who will decide on the usefulness of health manpower research in formulating those policies.

(2) The community needs/demands complex: this is the community, in the broadest sense, with its actual and perceived needs and resources; its interaction with health services; and its potential for participation in planning, providing, and evaluating health services.

(3) Research and training institutions: these include universities, institutes, agencies, schools and training programmes, including those of the ministry of health.

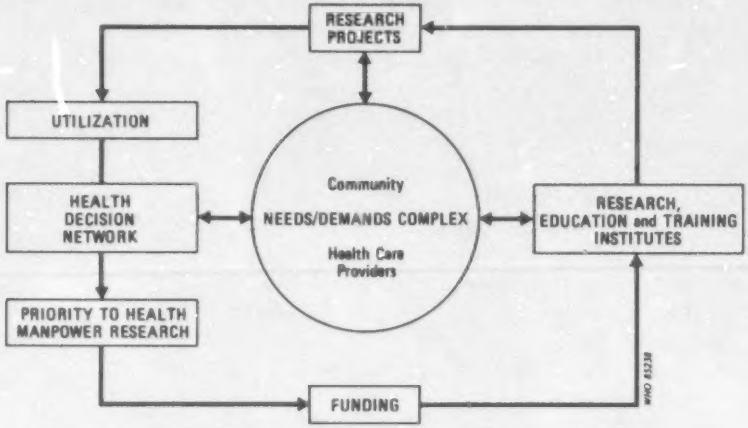
These parties must interact effectively with one another. When any of the three acts in ignorance of or in isolation from the others in planning, programming, implementing or evaluating, its effectiveness is compromised. Consequently, national priority must be given to the development of effective arrangements, in terms of both structure and policy, for the constructive interaction of these three centres of action.

The interactions among decision-makers, teachers, and researchers in the field of health manpower development generally follows the process outlined below and in Fig. 5.

(1) Beginning with the health decision network, it is clear that, if there is no interest in health manpower research at this level, there is little likelihood that there will be an effective and integrated approach to the problems of health manpower. Attention must be given to the appropriate orientation and motivation, through the training if necessary, of decision-makers. They have to be able to recognize their needs for research data, identify the problems that are to be researched, and demand and then use the research data in the decision-making process.

(2) The decision-makers must give priority to health manpower research but not in isolation. Within the context of national health

Fig. 5. Scheme of interaction among
decision-makers, educators, and researchers in the field of health manpower development in relation to primary health care and health for all



policy, a national research policy is required that will give priority to and provide support for research into health systems and health manpower, leading to the development of a plan for research.

(3) Funding is essential for the support of these areas of research. Without stable and sustained resources for building individual and institutional capacities for both health systems research and health manpower research, little research will take place and few researchers will be attracted to either field.

(4) Given emphasis on research in these two fields at the highest levels of the health decision network, the research and training institutions can develop a coherent approach to the research and educational aspects of health manpower development.

(5) Following from the above, research projects will have to be formulated and pursued in relation to realistic field settings, drawn from an understanding of the community needs/demands complex. These should include present and prospective roles of health personnel, that relate to the production potential of the education and training institutions and programmes, and are of priority interest to the health decision network.

(6) Ensuring the use of research may require the active promotion of interest and support, the shaping of research projects to fit the

policy interests of decision-makers, and providing the results from research within the time constraints of the decision-makers.

While the precise organizational arrangements for health manpower research must be decided within each national context, this scheme presents the relationships that need to be taken into account if health manpower development and related research are to be effectively linked to national needs.

In order to strengthen the national capability in health systems research to identify and solve problems related to improving the relevance and effectiveness of the health manpower development process, national mechanisms must be established to define and promote the implementation of health manpower research policies and to promote and monitor the use of research findings in decision-making. Strategies need to be developed to educate decision-makers to demand health manpower research and then to use the health manpower data effectively as an integral part of their decision-making process.

Institutions must strengthen their research in health manpower development as an integral part of health systems research and to address problems that impede the introduction of national health manpower development policies relevant to health for all through a primary health care approach, e.g., resistance to change. Institutions will need to introduce or reinforce training in health manpower research management and methodology, as well as in the use of research results (see section 6, recommendation 12).

4.5.5 *The epidemiology of health manpower development*

The field of health manpower development is vast, varied, and continually changing. While there are similarities among the problems, particularly when examined on a regional basis, each nation views its own problems in a unique way, and its policies and programmes follow from its own traditions, political system, social values, professional perspectives, and available resources.

Despite the individualistic approaches countries adopt for their health systems and manpower problems, they are vitally interested in the international exchange of information and ideas, and these exchanges lead to the diffusion of concepts, attitudes, and methods. Comparative studies, collaborative programmes, networks of institutions, and professional literature are all important in promoting the diffusion of ideas and developments in the field.

The Expert Committee was both intrigued and troubled by the highly varied and rich international mixture of problems in the health manpower field and efforts to solve them, and by the lack, internationally, of systematically derived information on health manpower development. In addressing this problem, the Committee turned to the concepts of epidemiology, which deal with the nature of health problems, including their causes, prevalence, and distribution, as well as the factors that might alleviate them—parameters that apply directly to health manpower development, particularly when considered on a global scale.

The Expert Committee believed that the time is right for WHO to promote a systematic international approach to what might be called the epidemiology of health manpower development, including:

- encouraging the definition of the kinds of health manpower information that will be most useful at national, regional, and international levels,
- encouraging the appropriate accumulation and analysis of such data in ways that facilitate national, regional, and international manpower policy decisions, and proceeding towards the establishment of a global data base for health manpower development;
- encouraging the use of such information in determining the situation as regards selected aspects of health manpower development, both achievements and persisting problems, as well as their international distribution;
- identifying the factors, both constraining and facilitating, that contribute to such developments;
- adding these sources of information and insights to the ongoing capacities and activities of WHO to identify further actions that might be undertaken nationally and internationally to contribute to more effective health manpower development programmes (see section 6, recommendation 11).

5. THE ROLE OF WHO

For the development and implementation of the national strategies for the attainment of health for all, the Expert Committee stressed that the support given by WHO to Member States is crucial:

through the exercise of its constitutional responsibility and performance of the inseparable and mutually supportive functions of coordination and technical cooperation. The Organization's most recent general programme of work has been formulated in response to the strategy, and emphasizes in particular the essential elements of the primary health care approach (*6*).

In harmony with national strategies to achieve health for all, the Expert Committee expressed its desire for WHO to cooperate with Member States during the 1980s to promote firm political commitment to radical change in the health manpower development process—to make it more relevant to national strategies for health development aimed at achieving health for all.

In order that countries may implement more effectively the changes in manpower required by the primary health care approach, the Expert Committee stressed that WHO, through its health manpower development programme, should support countries in their efforts to strengthen the planning, training, and management of their human resources; and to increase the relevance of training to health systems based on primary health care, and to the health needs of communities. Above all, the health manpower development programme should encourage Member States to involve local communities, and all groups with an interest in health manpower, in the formulation and implementation of coherent manpower policies.

The Expert Committee proposed that WHO, as the coordinator of international health activities, should seek to mobilize resources available through other specialized agencies of the United Nations, and from governmental and nongovernmental organizations, to optimize the efficiency and effectiveness of technical cooperation with and among countries, in the field of health manpower development.

5.1 Principles, aims, and objectives

The guiding principles for WHO's current programme of health manpower development were clearly set out in the long-term health manpower development policy document[1] discussed by the Twenty-ninth World Health Assembly in 1976, and in resolution WHA29.72. This document stated that: "the general principle that

[1] *Health manpower development*. 1976 (unpublished WHO document A29/15).

should guide the Organization in health manpower development is: to collaborate with Member States, at their request, in satisfying the health needs of their entire populations through health services composed of teams of health personnel, on the principle that all health activities should be undertaken at the most peripheral level of the health services as is practicable, by the workers most suitably trained to carry out these activities... the main aim in the coming years should be to effect a radical change in health manpower development that will make it relevant to present and foreseeable future community health needs." Subsequently there have been some amendments—in the light of the Declaration of Alma-Ata and the Global Strategy of Health for All.

Thus, for the first time in health manpower development there was a clear declaration of a hierarchy of aims: the satisfaction of health needs with the qualification that the needs of entire populations should be satisfied; development of health systems to satisfy those needs; and development of health manpower to serve the development of health systems.

The policy document also gave, for the first time, an explicit definition of the concept of health systems and manpower development: "the functional integration of the three main components of the health manpower development process [planning, production, management] into a composite whole, and this composite whole ...[to be]... integrated with the development of health services".

The central theme of these principles of health manpower development—first established in 1976, and still the predominant theme today—is relevance. Thus, while the technical content and emphasis may be different in each Member State, the aim in all of them is that health manpower development policies, programmes, and actions are made relevant to present and predicted future community health needs and to WHO's main goal of health for all by the year 2000.

The Seventh General Programme of Work (*6*) covering the period 1984–89 was approved in resolution WHA35.25 adopted by the Thirty-fifth World Health Assembly in May 1982. In this Programme of Work, the main objective of the Health Manpower Development Programme is laid down as follows: "to promote, and cooperate with countries in planning for, training and deploying the numbers and types of personnel they require and can afford; and to help ensure that such personnel are socially responsible and possess

appropriate technical, scientific and management competences, so as to develop and maintain comprehensive national health systems based on primary health care for the attainment of health for all by the year 2000" (*6*). The Seventh General Programme of Work has since been translated into a Medium-Term Programme[1] for health manpower development where the targets for the programme can be found.

5.2 Approaches to be used in the WHO Health Manpower Development Programme

Having reviewed the global health manpower development medium-term programme 1984–1989, the Expert Committee noted the following approaches to be used in the Health Manpower Development Programme:

(1) The first and fundamental approach will be for WHO to promote the functional integration of health systems and manpower development in countries, to improve the planning and deployment of health personnel, and to ensure the relevance of training programmes to community health needs. This means supporting the formulation of manpower policies and strategies as part of national strategies for health development, and ensuring that qualitative and quantitative health manpower requirements are taken into account during the development and application of the managerial process for national health development. Efforts will be made to strengthen national political commitment to reform health manpower development and direct it to national strategies to achieve health for all, as well as to create an awareness among policy-makers (e.g., politicians, teachers, magistrates, civic and religious leaders), and in particular among teachers, of their social responsibility to improve health care for all communities.

Efforts will also be made to enlist the support of decision-makers and health professionals to strengthen the national commitment to health systems and manpower development. WHO will collaborate in the establishment and/or strengthening of mechanisms to coordinate health systems and manpower development. It will also support countries in strengthening the capacity of their education system to respond to the rapidly changing needs for certain types of

[1] *Global health manpower development medium-term programme 1984–89*. 1983 (unpublished WHO document, HMD/83.1).

health personnel, as well as in their efforts to improve the planning, deployment, and evaluation of health workers. This should help to ensure that there is appropriate staffing of the primary health care and supporting levels of the health system, including practitioners of traditional medicine and such innovative categories as health generalists.

(2) The second main approach will be to promote community-oriented, problem-based, educational programmes using a team approach and designed to prepare personnel to perform tasks directly related to identified service requirements of specific concern to the country involved. To accomplish this, support will be given to national educational institutions and programmes, especially those involved in teacher training and in the training of front-line workers and their supervisors. WHO will encourage teachers of health sciences, especially those who train middle-level and primary health workers, to define the learning objectives of the programmes based on the health needs of their country and to develop competence in the planning, implementation, and evaluation of curricula. WHO will encourage cooperation between ministries of health and education, as well as other ministries concerned with health development, in the reorientation of their training programmes to meet national health development goals.

In view of the serious shortage of teaching/learning materials, WHO will support countries in reviewing their needs and priorities and assisting them in becoming self-reliant in the production of materials that meet priority needs and are adapted to local resources. This will involve supporting the development of appropriate teaching/learning materials, including self-instructional and audio-visual material, adapted to different cultures and languages, for all categories of manpower contributing to health development, particularly primary health workers, their teachers, and supervisors.

Universities will be encouraged to promote and support the concept of health for all through primary health care by reshaping their educational programmes to increase the sense of social responsibility among all students and teachers. They would thus be stimulated to become involved in the different types of research required to solve health problems related to the achievement of this concept.

(3) The third approach will be for WHO to cooperate with countries, other United Nations' agencies, and nongovernmental organizations, to improve the living and working conditions of

health workers, especially front-line workers, so as to attract and retain the necessary health manpower and reduce undesirable migration of trained staff.

A review of country experiences will also include a study of methods of providing incentives for service at the first contact level of primary health care, particularly in remote areas, and the analysis of those methods that have proved successful or that have failed under different circumstances in various countries. These experiences will be used as a basis for the planning and implementation of national career development schemes, supervision practices, and systems of continuing education for all categories of health manpower, as part of broader manpower policies.

WHO will collaborate with countries in their efforts to develop and strengthen national capabilities in managing a health system. All countries will be supported in their efforts to monitor and improve the use of fellowships to increase their relevance to national health development policies and plans, as a means of developing an effective health system infrastructure geared to achieving health for all through primary health care.

The Expert Committee identified three areas where the activities of both WHO and Member States need further emphasis. The first area is the involvement of communities in the above activities wherever appropriate. For this it will be necessary that planners, producers, and managers of health manpower recognize the essential role of communities in their areas of activity. Health for all itself arises from the imperative of social justice: equity in health is its basic premise, and community participation is the mechanism for assuring its implementation. There are also practical contributions that communities can make: ensuring the relevance of health services to needs; containing the costs of health care; and engaging community organizations and individuals in activities to improve health.

The second area is the promotion of health manpower research as part of health systems research. This kind of research will emphasize close cooperation with decision-makers, particularly those responsible for health services and educational programmes, so that the research is responsive in both content and timing to their needs for policy-related decisions. WHO should also promote the development of a network of institutions and programmes that will

experiment with innovative methods of health manpower development, pooling resources, carrying out research on common problems, exchanging staff and students, and exchanging information on accumulated experiences and views in various aspects of health manpower development.

The third area is to adapt the methods of epidemiology to the problems of health manpower development, including the systematic delineation of: the nature of health manpower development problems, the causative factors associated with them, their international distribution, and the steps being taken or that might be taken to deal with them. A necessary supportive activity will be to encourage Member States, individually and collectively, to define the kind of health manpower information that will be most useful at the national, regional, and international levels, and to encourage the appropriate accumulation and analysis of such data in ways that facilitate policy decisions, proceeding towards the development of a global data base for health manpower development.

In all of the above activities, technical cooperation among countries will be very important particularly for the training of teachers and for the production and exchange of learning materials.

6. CONCLUSIONS AND RECOMMENDATIONS

On the basis of the discussions outlined in this report the Expert Committee arrived at certain general conclusions which are summarized as recommendations below. The Committee felt that radical changes should be made urgently in the health manpower development processes in countries. While paying tribute to the commitment of the Member States to attaining the goal of health for all, the Committee considered that such commitment must be translated into action, especially in the area of health manpower development, if the goal is to be met. The task is admittedly difficult but, as the Director-General of WHO had said in his introductory comments, all must be willing to share the risks involved in overcoming these difficulties.

The following are the recommendations of the Expert Committee:

(1) *Health manpower requirements.* The Expert Committee, recognizing that each country must specify its own qualitative and

quantitative health manpower requirements, and that there can be no universal or international norms to estimate such requirements, recommends that WHO support Member States in their efforts to formulate or revise, through the involvement of representatives from different sectors, professional organizations, nongovernmental organizations, and community representatives, national health manpower requirements to achieve health for all by the year 2000 through the primary health care approach.

(2) *Integrated health systems and manpower development.* The Expert Committee, being aware that health manpower development must serve the development of health systems to satisfy the health needs of entire populations and, hence, that the concept of health systems and manpower development must be made operational in Member States as soon as possible, recommends that Member States, in cooperation with WHO:

- establish or strengthen permanent mechanisms for health systems and manpower development, in conjunction with national health councils and national health development networks, with appropriate organizational and financial support;
- adapt all health facilities/services of the ministry of health and other health agencies for educational activities, adapt all educational/training institutions for service activities, and provide support to services and institutions applying the health systems and manpower development concept;
- establish joint service and teaching appointments with the ultimate goal of "all who teach—serve, all who serve—teach" using criteria relevant to health systems and manpower development concepts for professional and academic promotions, and develop health sciences curricula based on these concepts, e.g., training in primary health care settings and multiprofessional training. Students who will be responsible in the future for changing the design and implementation of such training activities should be involved in developing these curricula.

The Expert Committee also recommends that WHO promote the concepts of health systems and manpower development in Member States.

(3) *Political commitment*. The Expert Committee recommends that WHO encourage Member States to generate and strengthen their political commitment to the concepts of health systems and manpower development.

(4) *Community involvement in health manpower development*. The Expert Committee, considering that one of the pillars of the primary health care approach is community involvement and that such involvement is a two-way process in which the community both contributes to and benefits from the development of health and health manpower, recommends that the Member States of WHO design and implement country specific mechanisms to ensure the fair participation of all sections of the community, including the less privileged, in health manpower development activities and that communities be involved in different aspects of health manpower development.

The Expert Committee also recommends that Member States give high priority to as much decentralization of decision-making power and management functions and controls as possible in order that the health system infrastructure can be responsive to community health needs and can be people-oriented.

In addition, WHO should encourage Member States to:

- include in training programmes for all health workers the acquisition of the skills needed to elicit genuine community involvement in planning, implementing, and evaluating their health activities;
- undertake activities to change the value orientations of all health workers from profession-based to people-oriented;
- design and implement dynamic epidemiological and systems approaches to assist communities to support the planning, implementing, and evaluating of health services appropriate to their needs;
- develop a system of accountability of training institutions and health services to relevant community councils or equivalent bodies.

(5) *Health manpower policies*. The Expert Committee, stressing the need to establish priorities among health manpower development goals and the main directions of achieving these goals in harmony with national health policies and strategies for health for

all, recommends that Member States formulate, and/or periodically review for relevance, explicit health manpower policies, to provide a framework for the development of health manpower strategies and for the integration of the different components of the health manpower development process.

The Expert Committee further recommends that WHO develop appropriate methodological approaches to policy formulation with an emphasis on democratization of the process as called for by the primary health care approach.

(6) *Health manpower planning*. The Expert Committee, recognizing that manpower considerations are among the most important elements in the national strategy for health for all and that manpower planning should be undertaken as an integral part of health planning, relevant to the needs and resources of communities, recommends that WHO collaborate with Member States to promote and support the development of their health manpower plans.

(7) *Characteristics of the graduates of educational and training programmes*. The Expert Committee recommends that WHO continue to promote the strengthening of Member States' commitment to the definition of professional and personal competencies and attitudes required by the graduates of educational and training programmes in their work as individuals and as health-team members, and that this process of definition be carried out with the involvement of teachers, community members, providers of health care, and other concerned parties, i.e., students.

The Expert Committee also recommends that WHO cooperate with Member States to enable them to:

- define the expected characteristics of the graduates of their health science educational and training programmes such that the graduates are: (*a*) competent in the functions expected of them in a health system based on the primary health care approach; (*b*) attuned to the needs of the community; (*c*) willing to work where they are needed; (*d*) able to solve problems as they arise; and (*e*) motivated to continue lifelong learning;
- plan, develop, and evaluate their health science educational and training programmes so that they are: (*a*) closely relevant to the expected characteristics of the graduates; (*b*)

competency-based, problem-oriented, multiprofessional (team-oriented), community-based, and student-oriented; (*c*) geared to promoting skills in problem-solving and self-learning;

— produce locally relevant teaching/learning materials and, if necessary, adapt materials produced elsewhere to suit local circumstances.

(8) *Continuing education and career development.* The Expert Committee, recognizing that learning is a lifelong process and that health workers should continuously adapt to the changing requirements of health systems and aware that the motivation to pursue lifelong learning largely depends on career mobility and advancement, recommends that WHO cooperate with Member States in order to establish national systems of continuing education that provide the opportunity and encouragement for:

— maintenance and/or upgrading of technical competence, performance, and leadership qualities of all health workers;
— reorientation of existing health workers towards acquiring the right attitudes to serve in communities;
— career development of all health workers to improve their motivation;
— assurance of the relevance of continuing education to health system needs also by calling for teaching on the part of those who serve and service on the part of those who teach.

(9) *Health manpower management.* The Expert Committee, recognizing that trained health manpower has a limited role in the development of health systems based on the primary health care approach unless such manpower is properly deployed and utilized through effective management; and aware that all countries have functioning health manpower management systems that need substantial improvement, recommends that the Member States, in collaboration with WHO, improve the effectiveness of their health manpower management systems.

The Expert Committee also recommends that WHO provide all the necessary support for Member States in their efforts to develop methodological tools and guidelines to implement the above improvements.

(10) *Health manpower information system.* The Expert Committee, recognizing that appropriate information support is

vi[illegible] for the proper functioning of the health manpower development process, and particularly for managerial effectiveness, recommends that WHO cooperate with Member States to develop:

- national and local health manpower information systems, as part of health information systems, to plan for, monitor, and evaluate the health manpower development process;
- mechanisms to ensure regular feedback of analyses of information to those providing such information as well as to those involved in planning, producing, and managing health personnel, to enable them to adjust their work accordingly;
- innovative approaches to obtain information inexpensively and which is relevant to community needs e.g., key informant schemes;
- country-specific health manpower indicators, in conjunction with global indicators, to monitor the progress of health for all, that are practical and useful for the review of progress in health manpower development.

(11) *Global data base for health manpower development.* The Expert Committee, recognizing that concepts and practices of health manpower development in Member States are undergoing a steady evolution in view of the emphasis on equity and relevance as called for by the primary health care approach to health for all, recommends that WHO encourage the Member States, individually and collectively, to undertake practical studies that will provide:

- the state of development of all important aspects of health manpower development, including achievements and shortfalls;
- the factors, both constraining and facilitating, that affect such development;
- the steps that are planned or may be undertaken to contribute to more effective national health manpower development programmes to enhance the implementation of national strategies for health for all.

The Expert Committee also recommends that WHO continue to expand its accumulation of such national experiences, interpret and disseminate them to Member States and other interested parties, and thereby develop the epidemiology of health manpower development —the problems, their distribution, and causation—which should

form a basis for formulating strategies for dealing effectively with the most important problems of health manpower development.

(12) *Research in health manpower development.* The Expert Committee, considering that there are many unresolved questions related to the development of health manpower for health systems aimed at meeting the needs of entire populations, and that answers to these questions affect decision-making in health systems and manpower development, recommends that WHO persuade Member States to undertake health manpower research, as an integral part of health systems research, at all levels of health systems and training institutions.

The Expert Committee also recommends that Member States involve communities as well as decision-makers in both health systems and training institutions in identifying research questions and methods to be used and in reviewing the outcomes as a basis for decision-making in the health manpower development process so that health manpower research is practical in its orientation, timely in its implementation, and linked to policy formulation.

(13) *Gaining the support of professional groups.* The Expert Committee, aware that professional groups, if properly motivated, can exert a powerful influence on changes in the attitude of policy-makers and the general public that are called for by the goal of health for all, and recognizing that health and health manpower legislation can reflect the commitment of different interested groups, especially professional groups, to the primary health care approach, recommends that WHO cooperate with Member States in their efforts to gain the support of professional and other interested groups to the concept of integrated health systems and manpower development.

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